Moxa VPort D351 Industrial Video Decoder

User's Manual

Third Edition, June 2008

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VPort D351 User's Manual

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Technical Support Contact Information
www.moxa.com/support

Moxa Americas:
Toll-free: 1-888-669-2872
Tel: +1-714-528-6777
Fax: +1-714-528-6778

Moxa China (Shanghai office):
Toll-free: 800-820-5036
Tel: +86-21-5258-9955
Fax: +86-10-6872-3958

Moxa Europe:
Tel: +49-89-3 70 03 99-0
Fax: +49-89-3 70 03 99-99

Moxa Asia-Pacific:
Tel: +886-2-8919-1230
Fax: +886-2-8919-1231

Before Getting Started

Before using your VPort D351, please pay close attention to the following items:

- After opening the VPort D351 box, compare the contents of the box with the **Package Checklist in Chapter 1**. Notify your sales representative if any of the items is missing or damaged.
- To prevent damage or problems caused by improper usage, before assembling and operating the device and peripherals, read the **Quick Installation Guide** (the printed handbook included in the package). You may also refer to **Chapter 1**, under **Product Description**, and all of **Chapter 2**, of this manual.
- The VPort D351 Video Encoder has been designed for various environments and can be used to build various applications for general security or demonstration purposes. For standard applications, refer to **Chapter 2**, **Getting Started**, and **Chapter 3**, **Accessing the VPort D351 Video Encoder for the First Time**.

Important Note

- Surveillance devices may be prohibited by law in your country. Since the VPort is both a high performance surveillance system and networked video server, it is your responsibility to ensure that the operation of such devices is legal in your locality before installing this unit for surveillance purposes.

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1

Introduction

The VPort D351 is a high-performance networked video decoder used to convert digital video streams to analog video signals.

The following topics are covered in this chapter:

- **Overview**
- **Package Checklist**
- **Product Features**
- **Typical Application**
- **Panel Layout of the VPort D351**
- **Product Description**

Overview

The VPort D351 is a 1-channel video decoder for decoding MPEG4/MJPEG video streams from VPort series video encoders (does not include the VPort 2110, VPort 2140, VPort 2310, VPort 2141, and VPort 3310) and VPort series IP cameras back to analog video signals. The analog video signal can be sent to legacy CCTV devices, such as monitors, multiplexers, and matrix switches, which can be used as originally intended as part of CCTV systems. In addition, bi-directional audio enables ready-to-use voice over IP communication between the video encoder and decoder.

The VPort D351 makes it easy to monitor cameras that are part of large CCTV systems, and the VPort D351 can be configured to switch between different video sources either manually or automatically within a given time interval. Up to 64 video sources can be included in the list. In addition, the 2 DIs located on the top panel of the VPort D351 can be used to create 2 control buttons for up and down video source selection.

Decodes the VPort's MJPEG/MPEG4 video streams automatically

The VPort D351 can decode digital video streams that are generated from some VPort series video encoders and IP cameras back to analog video signals for use with legacy CCTV equipment, such as CCTV monitors, making the VPort D351 an important tool for protecting your investment in CCTV equipment.

NOTE The VPort D351 cannot decode video streams from the VPort 2110, VPort 2140, VPort 2141, VPort 2310, and VPort 3310.

2-way audio support for a complete surveillance solution

The VPort D351 supports both audio input and audio output for voice over IP communication between field sites and a central site. The 2-way audio function not only saves time, but also saves the cost of needing to add additional communication devices, such as a telephone.

Up to 64 video source channels supported for manual or auto-scan selection

The VPort D351 supports up to 64 video source channels in one unit, providing users with the convenience of conducting wide-scale video surveillance with just one monitor. Users can manually select the video sources from the web browser or 2 DIs (DI1 is up and DI2 is down). An auto-scan mode is also provided for changing the video source automatically in a given time interval.

Automatically change to the video source once an alarm is triggered

The VPort D351 can be configured to change the active video source automatically to the source of the alarm. This function allows users to check the cause of the alarm immediately without losing any video. Once the danger passes, you can manually switch the video source and resume normal operation.

Transparent PTZ control through the PTZ COM port

A "Transparent PTZ Control" is available to control cameras with a legacy PTZ control panel or keyboard, which means that many brands and models of PTZ camera can be controlled without the need to install PTZ drivers. Just connect your legacy PTZ control panel or keyboard to the PTZ port of the VPort D351 to control the PTZ camera connected to the VPort video decoder directly.

Convenient OSD (on-screen display) setup for customized information

Since analog video systems are not very convenient for bundling or checking more detailed information, an OSD (on-screen display) is an important tool that can be used to keep track of which video source is active. The VPort D351 provides convenient OSD functions, including a video source index, video source IP, and customized information defined by the users. In addition, users can also set up the coordinates of the OSD information for good display.

Easy web access with standard browsers

There is no need to install new software to access the video decoder, since the embedded web server allows users to use any popular web browser to access the video decoder from anywhere over the Internet. As long as you are connected to the network, you will be able to set up the video encoder easily.

Flexible I/O control for switching the video source, or connecting the external I/O devices

Two opto-isolated sensor inputs (DI) and 2 relay outputs (Relay or DO) are provided to control external devices, giving system integrators the option of turning an analog system into an advanced security system. In addition, the 2 DIs also can be used for selecting the video source. DI1 can function as a UP selection (for example, from video source 1 to 2), and DI2 can function as a DOWN selection (for example, from video source 2 to 1).

Support for SNMP V1, V2c, and V3 for easy network management

More and more IP devices are networked for use on one TCP/IP network. To make management and maintenance easier, SNMP (Simple Network Management Protocol) can be used to monitor all of these IP devices.

CGI command support for 3rd -party developers

The VPort D351 also supports CGI commands for 3rd party developers who would like to integrate the control of a video decoder into their system. The CGI commands can be downloaded from Moxa's website free of charge.

Package Checklist

The Moxa VPort D351 is shipped with the items listed below. If any of these items is missing or damaged, please contact your customer service representative for assistance.

- 1 × VPort D351
- 1 × 6-pin terminal block for one power input and 2 DIs
- 1 × 8-pin terminal block for a second power input and 2 relay outputs
- 1 × 5-pin terminal block for the RS-232/422/485 PTZ control port
- Quick Installation Guide
- Document & Software CD (includes User's Manual, Quick Installation Guide, and VPort Utility)
- Warranty statement

NOTE: Notify your sales representative if any of the above items are missing or damaged.

Product Features

High performance video/audio networking solution

- 1-channel video output for analog NTSC/ PAL video signals
- 1 audio input and 1 audio output for 2-way voice communication
- 1 auto-sensing 10/100BaseT(X) Ethernet port
- TCP, UDP, HTTP, and multicast network transmission modes
- 1 RS-232/422/485 PTZ port with serial-to-Ethernet Real COM mode for remote PTZ control with existing legacy PTZ control devices (PTZ control driver NOT required)
- Capability to decode different video stream resolutions from video encoder with a maximum of 540 TVL lines
- Maximum of 64 video sources can be set up as the decode video source
- Can manually select the video source, or set up automatic scanning for video sources
- Supports using the 2 digital inputs to switch the video source
- Supports SNMP (V1/V2C/V3) for network system integration and management
- Built-in web server and RS-232 console for remote access and configuration
- Supports OSD (On-Screen Display)
- UPnP and IP filtering supported

Industrial Rugged Design

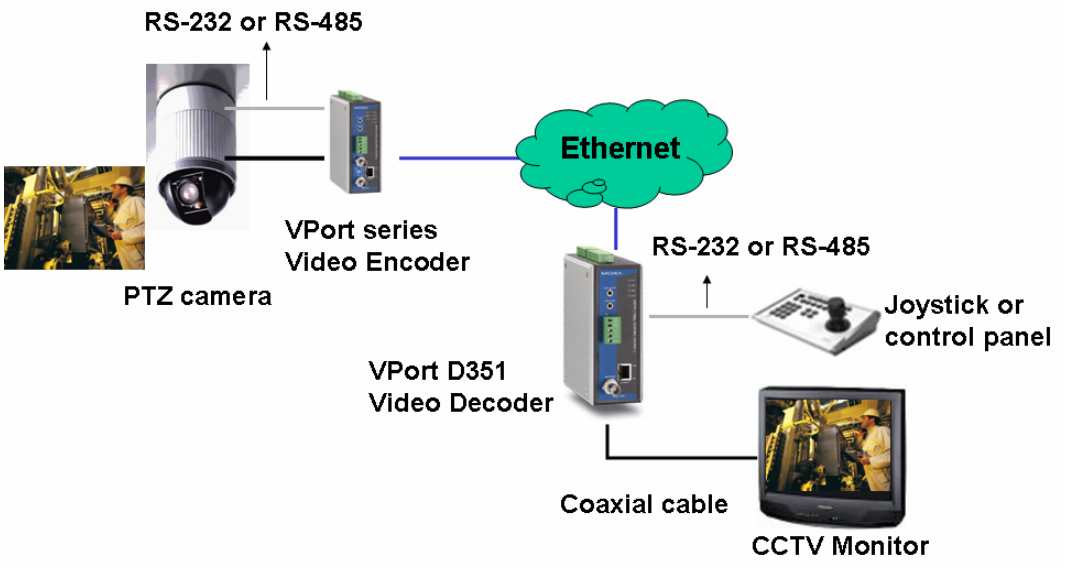
- 2 12/24 VDC and 24 VAC redundant power inputs with LED indicators
- 35 mm DIN-rail mounting or panel mounting installation (with optional accessories)
- IP30 protection form factor
- CE, FCC, and UL508 indistrial certifications

Intelligent Alarm Trigger

- Equipped with 2 DIs and 2 relays (DO) for external sensors and alarms
- Can be set up to switch automatically to a specific video source in response to an event triggered by the VPort video encoder
- Supports SMTP for system or alarm message transmission

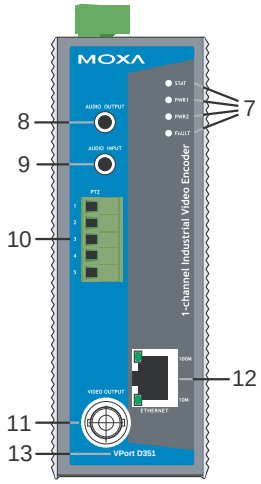
NOTE Please link to Moxa's website to download the VPort D351's CGI commands if you need the commands for your system integration.

Typical Application

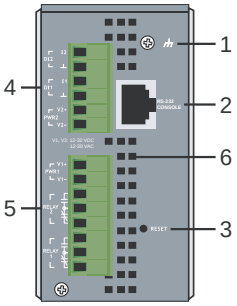


Panel Layout of the VPort D351

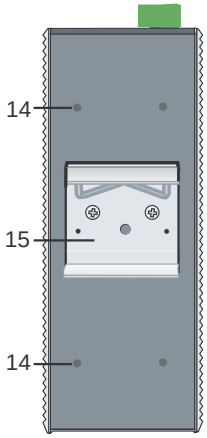
Front Panel View



Top Panel View



Rear Panel View



1. Grounding screw
2. RS-232 console port
3. Hardware reset button
4. 6-pin terminal block for DI 1, DI 2, power input 2 (PWR2)
5. 8-pin terminal block for Relay 1, Relay2, power input 1 (PWR1)
6. Heat dissipation orifices
7. LEDs for STAT, PWR1, PWR2, FAULT
8. AUDIO OUTPUT port for external speaker
9. AUDIO INPUT port for mic-in and line-in connection
10. 5-pin terminal block for RS-232/422/485 connection
11. BNC port for analog video output
12. RJ45 10/100BaseTX Ethernet port with 10 Mbps, 100 Mbps LEDs
13. Model name
14. Screw hole for wall mounting kit
15. DIN-Rail mounting kit

Product Description

BNC video output

The BNC video output is a 75 Ohm, 1 Vpp video port for connecting an external CCTV device, such as monitor.

Mini stereo jacks for audio input/output

The VPort 351 has 2 mini stereo jacks on the front panel for audio input and output. One jack is for a MIC-in/Line-in audio input connection, which can be directly connected with a microphone or an audio source from an amplifier. The other jack is a Line-out audio output connection, which can be used to connect earphones or an amplifier.

LED Indicators

The front panel of the Moxa VPort D351 contains several LED indicators. The function of each LED is described in the table below.

LED	Color	State	Description
STAT	GREEN/RED	RED ON	Hardware initialization
		RED FLASH	Software initialization
		GREEN ON	System boot-up
		GREEN FLASH	Firmware upgrade underway
PWR1	AMBER	On	Power is being supplied to power input PWR1
		Off	Power is **not** being supplied to power input PWR1
PWR2	AMBER	On	Power is being supplied to power input PWR2
		Off	Power is **not** being supplied to power input PWR2
FAULT	RED	On	Three conditions could cause the LED to light up: 1. One of the 2 power inputs is disconnected. 2. Network disconnected Settings can be modified on the **System Configuration → Alarm →System Alarm** page.
		Off	Both power inputs are connected and working, or there is no video loss, or the network disconnected alarm is silent (if it has been activated).

NOTE After powering on the VPort D351, wait a few minutes for the POST (Power On Self Test) to run. When the POST is running, the STAT LED will first be lit in RED during the hardware initialization. It will then blink in RED during software initialization. After the POST finishes, the LED will be lit in GREEN to show that it is working properly.

10/100 Mbps Ethernet port

The VPort D351 provides one RJ45 Ethernet port for a 10/100 Mbps Ethernet connection. Two LED indicators are located on the corner of the RJ45 Ethernet port to indicate if the link speed is 10 Mbps or 100 Mbps.

RS-232/RS-422/RS-485 PTZ COM port

The VPort D351 provides 1 RS-232/422/485 COM port for PTZ control. The port uses a 5-pin terminal block connector with the following pin assignments.

PIN	RS-422/485		RS-232	
1	**GND**	Ground	**GND**	Ground
2	**R-**	Rx-	**---**	N/A
3	**R+**	Rx+	**RxD**	RxD
4	**T-\D-**	Tx-/ Data-	**---**	N/A
5	**T+\D+**	Tx+/ Data+	**TxD**	TxD

NOTE The VPort series video encoders support "Transparent PTZ Control," which is listed in the camera driver list. This function is used is to transmit the PTZ control signal through a TCP/IP network to the VPort D351 video decoder or PC (additional Real COM driver required), and the PTZ control panel or keyboard can directly control the PTZ camera or device. In this way, there is no need for PTZ camera driver, and there are no protocol limitations for using a PTZ camera with a VPort encoder.

Redundant 12/24 VDC and 24 VAC power inputs

The VPort D351 has two power inputs for redundancy. Each power input supports both 12/24 VDC and 24 VAC power for greater versatility.

NOTE The supported power input specifications for the VPort D351 series are 12-32 VDC for a 12/24 VDC power input, or 18-30 VAC for a 24 VAC power input. This differs from the Moxa EDS switch's 12-45 VDC power input.

General I/O terminal blocks

One 6-pin terminal block and one 8-pin terminal block are located on the VPort D351's top panel. The terminal blocks provide 2 digital inputs (DI), 2 relay outputs (Relay), and the 2 power inputs. These digital inputs and relay outputs are for linking to peripheral devices, such as sensors and alarms, and can be employed when using the VPort D351 to create an intelligent alarm system for system operation (power failure, disconnected network).

In addition, the VPort D351's DI 1 and DI 2 can also be used for controlling the selection of the video source. Administrators can set up this function by checking the **Enable DI Change** checkbox under **System Configuration → Video Source → Video Source List**. DI 1 can then do backward video source selection (e.g., from video source 2 to video source 1), and DI 2 can do forward video source selection (e.g., from video source 1 to video source 2).

Relay Output		Normal Open	Max. 1A, 24 VDC Initial status is Normal Open
		Common	
		Normal Close	
Digital Input	⊥	DI-	"High": +13V to +30V "Low": -30V to +3V
	I1, I2	DI+	

NOTE Please refer to the VPort D351 Quick Installation Guide to see how to wire the digital inputs and relay outputs.

RS-232 Console Port

The VPort D351 has one RS-232 (10-pin RJ45) console port located on the top panel. Use either an RJ45-to-DB9 cable or RJ45-to-DB25 cable to connect the VPort D351's console port to your PC's COM port. You may then use a console terminal program, such as Moxa PComm Terminal Emulator, to access the VPort 351's console configuration utility.

Reset Button

A recessed RESET button is provided for rebooting and restoring the system to the factory default settings. Use a pointed object, such as a straightened paper clip or toothpick, to press the reset button.

1. Reboot:

   To reboot the VPort D351, power it off and then power it back on again, or push the RESET button once. The STAT LED will light in red as the POST (Power On Self Test) process runs. When the rebooting process is finished, the STAT LED will change to a green color.

2. Restore to Factory Settings:

   To restore the VPort D351 to the factory default settings, press the reset button continuously until the STAT LED blinks in red. At this point, release the reset button. The POST process will run, and the VPort will reboot. The STAT LED will light in green when the VPort has finished rebooting.

2

Getting Started

This chapter includes information about how to install a VPort D351 Video Decoder.

The following topics are covered:

- **The Meaning of "User" and "Administrator"**
- **First-Time Installation and Configuration**
- **RS-232 Console Configuration (115200, None, 8, 1, VT100)**
- **Mounting the VPort D351**
  - Mounting Dimensions
  - DIN-Rail Mounting
  - Wall Mounting (Optional)
- **Wiring Requirements**
  - Grounding the Moxa VPort D351
  - Wiring the Relay Output
  - Wiring the Redundant Power Inputs
  - Wiring the Digital Inputs
- **Communication Connections**
  - 10/100BaseT(X) Ethernet Port Connection
  - Auto MDI/MDI-X

The Meaning of "User" and "Administrator"

In what follows, "user" refers to those who can access the Video Server, and "administrator" refers to the person who knows the root password that allows changes to the Video Encoder's configuration. Administrators also have general access. Administrators should read this part of the manual carefully, especially during installation.

First-Time Installation and Configuration

Before installing the VPort D351, check to make sure that all items in the Package Checklist are present. In addition, you will need access to a notebook computer or PC equipped with an Ethernet port.

Step 1: Select the Power Source

The VPort D351 can be powered by a 12 to 32 VDC power input, or an 18 to 30 VAC power input. Two power inputs are provided for redundancy. Users can check the LED status located on the front panel to see if the power inputs are connected appropriately. If one of the power inputs fails, the FAULT LED will light up in red.

NOTE The VPort D351 supports 12-32 VDC for a 12/24 VDC power input, or 18-30 VAC for a 24 VAC power input. This differs from the 12-45 VDC power input supported by Moxa's EDS series of Ethernet switches.

Step 2: Connect the VPort D351 to a Network

The VPort D351 has an auto-sensing 10/100 Mbps RJ45 Ethernet port for network connectivity. The RJ45 port has LEDs for indicating 10 Mpbs or 100 Mpbs data transmission.

Step 3: Connect the VPort D351 to an audio source (if required)

The VPort D351 supports 1 **AUDIO INPUT** and 1 **AUDIO OUTPUT**. A microphone or an amplifier can be plugged directly into the **AUDIO INPUT** port; a speaker can be plugged into the **AUDIO OUTPUT** port.

Step 4: Connect the VPort D351 to a video output source

The VPort D351 supports 1 **VIDIO OUTPUT** for transmitting analog video. Connect the video output source, such as CCTV monitor or switch, to the BNC connector to use the analog video signal.

Step 5: Connect the VPort D351 to a control panel or keyboard to control the motorized PTZ camera or device (if required)

If a motorized PTZ camera or device is used at the VPort encoder site, users can connect the PTZ control panel or keyboard to the VPort D351's PTZ port to control the motorized PTZ camera or device directly once the connection between the VPort D351 and the VPort encoder is ready. The PTZ port uses a 5-pin terminal block for the RS-232/422/485 serial connection. The pin assignments are shown in the following table.

PIN	RS-422/485		RS-232	
1	**GND**	Ground	**GND**	Ground
2	**R-**	Rx-	**---**	N/A
3	**R+**	Rx+	**RxD**	RxD
4	**T-\D-**	Tx-/Data-	**---**	N/A
5	**T+\D+**	Tx+/Data+	**TxD**	TxD

NOTE The VPort D351 supports Transparent PTZ control, which means that the VPort D351 can connect directly to the PTZ control panel or keyboard to control the remote PTZ camera connected to the VPort series video encoders. Since the PTZ control protocol is not standardized, the PTZ control panel and keyboard must support the control of PTZ cameras.

NOTE Currently, VPort series video encoders support PTZ control protocol drivers for:

1. Pelco D
2. Pelco P
3. DynaColor DynaDome

In addition, the camera driver list has an item named "Transparent PTZ Control." This is used to transmit the PTZ control signal over the TCP/IP network to the VPort D351 video decoder, so that the PTZ control panel or keyboard can directly control the PTZ camera or device. Using this method eliminates the need for a PTZ camera driver. In addition, you will be able to use any PTZ camera with your VPort series video encoders.

Step 6: Configure the VPort D351's IP address

After powering on the VPort D351, wait a few seconds for the POST (Power On Self Test) to run. The POST process is complete once the STAT LED turns green. The IP address will be assigned when the 10 or 100 Mbps NETWORK LED blinks. The value of the IP address that is assigned is based on the network environment.

Network Environment with DHCP Server

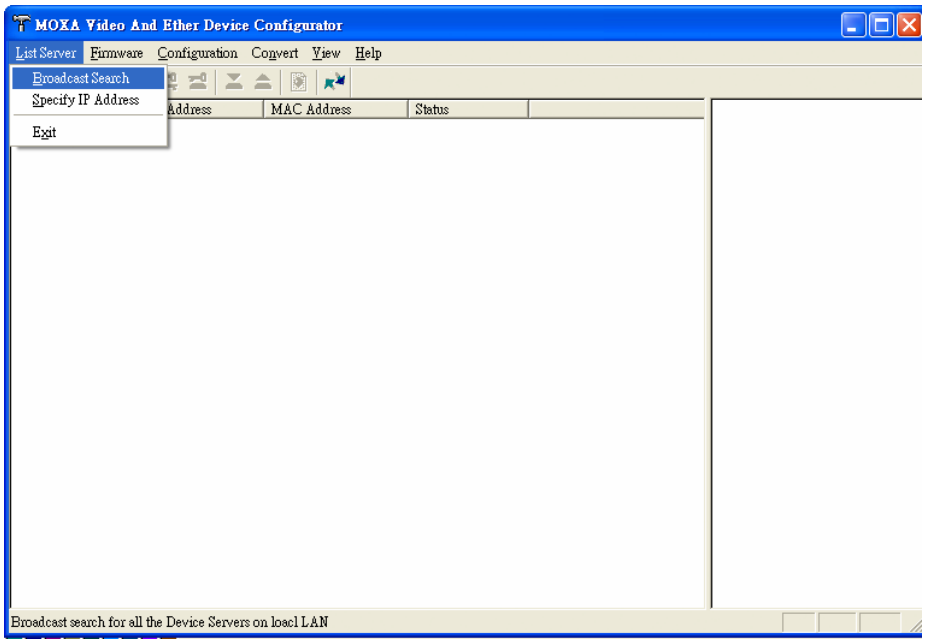
When a DHCP server is present, the IP address of the VPort D351 is assigned by the DHCP server. Use the DHCP server's IP address table, or use the Moxa VPort and EtherDevice Configurator utility to determine the IP address that was assigned by the DHCP server.

NOTE After powering on the VPort D351, wait a few seconds for the POST (Power On Self Test) to run. The IP address will be assigned when the 10 or 100 Mbps NETWORK LED blinks.

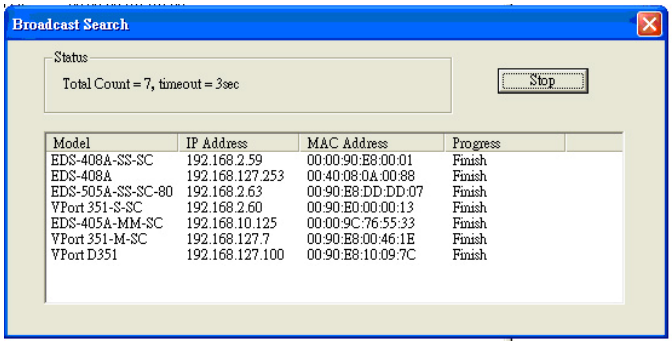
Using the Moxa VPort and EtherDevice Configurator Utility (edscfgui.exe)

1. Run the **edscfgui.exe** program to search for VPorts and EDS switches. After the Utility window opens, select or click **Broadcast Search** under the **List Server** menu, or click on the **Broadcast Search** icon to initiate a search.

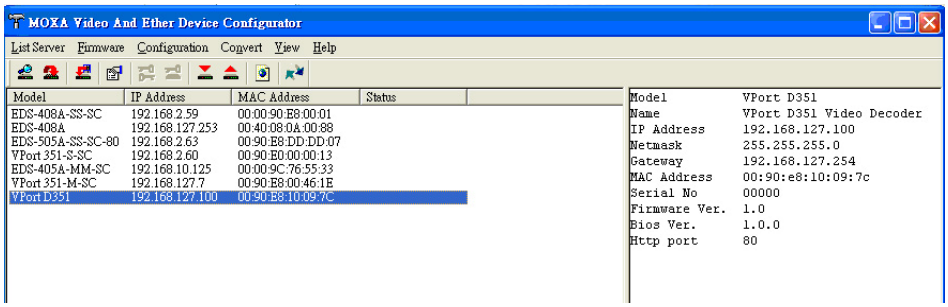
NOTE You may download the VPort and EtherDevice Configurator software from Moxa's website at www.moxa.com.



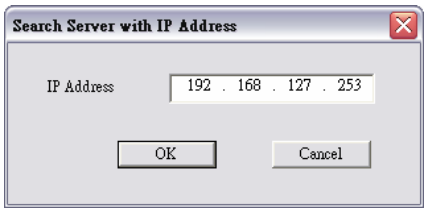
2. The **Broadcast Search** window will display a list of all switches and VPorts located on the network. The progress of the search will also be indicated.



3. When the search has ended, the Model Name, MAC address, and IP address of the EDS switches and VPorts will be listed in the **Utility** window.



NOTE **Broadcast Search** can only search for devices connected to the same LAN domain as the VPort. If your devices are located on a different LAN domain, use the **Specify IP Address** function to search for the device by keying in the IP address.



4. Double click the selected VPort, or use the IE web browser to access the VPort's web-based manager (web console).

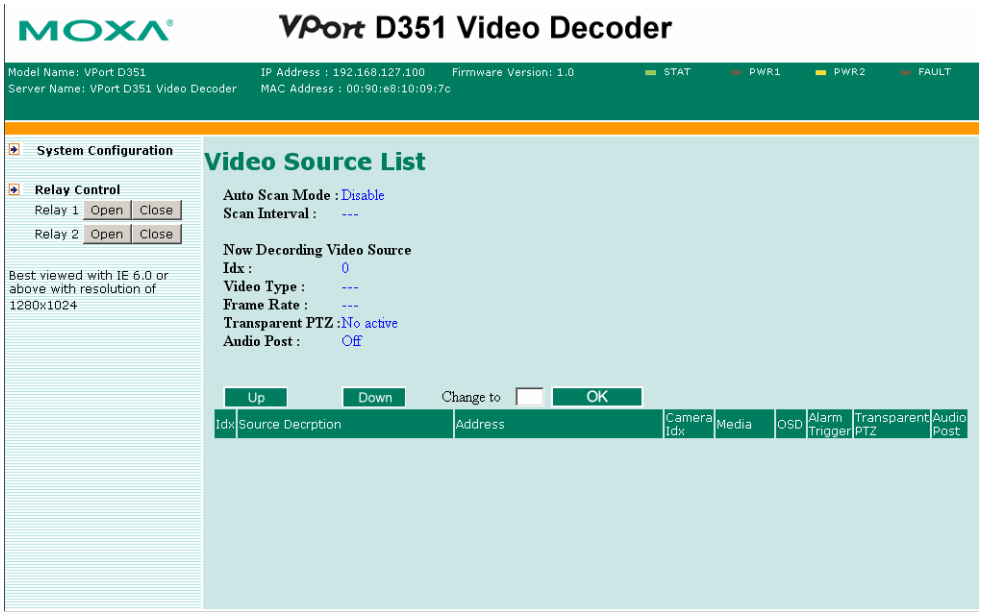
Network Environment without DHCP Server

If your VPort D351 is connected to a network that does not have a DHCP server, you will need to configure the IP address manually. The default IP address of the VPort D351 is **192.168.127.100** and the default subnet mask is 255.255.255.0. Note that you may need to change your computer's IP address and subnet mask so that the computer is on the same subnet as the VPort.

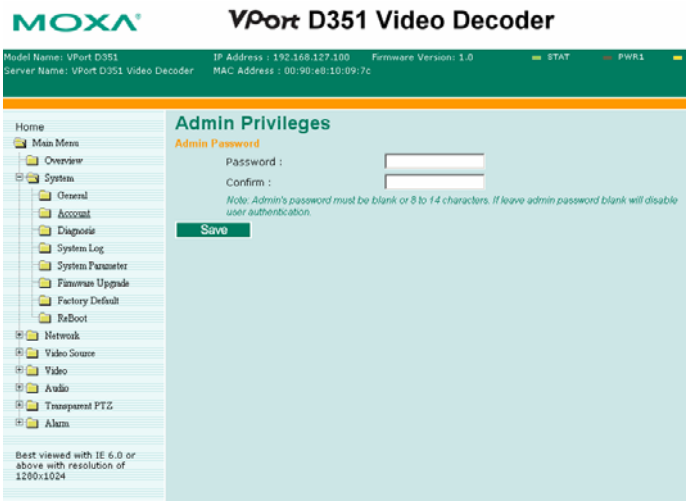
To change the IP address of the VPort manually, access the VPort's web server, and then navigate to the **System Configuration → Network → General page** to configure the IP address and other network settings. Check the **Use fixed IP address** checkbox to ensure that the IP address you assign is not deleted each time the VPort is restarted.

Step 7: Accessing the VPort D351 Web-based Manager

1. Type the IP address in the web browser's address input box and then press enter to connect to the homepage of the VPort D351's web-based manager.

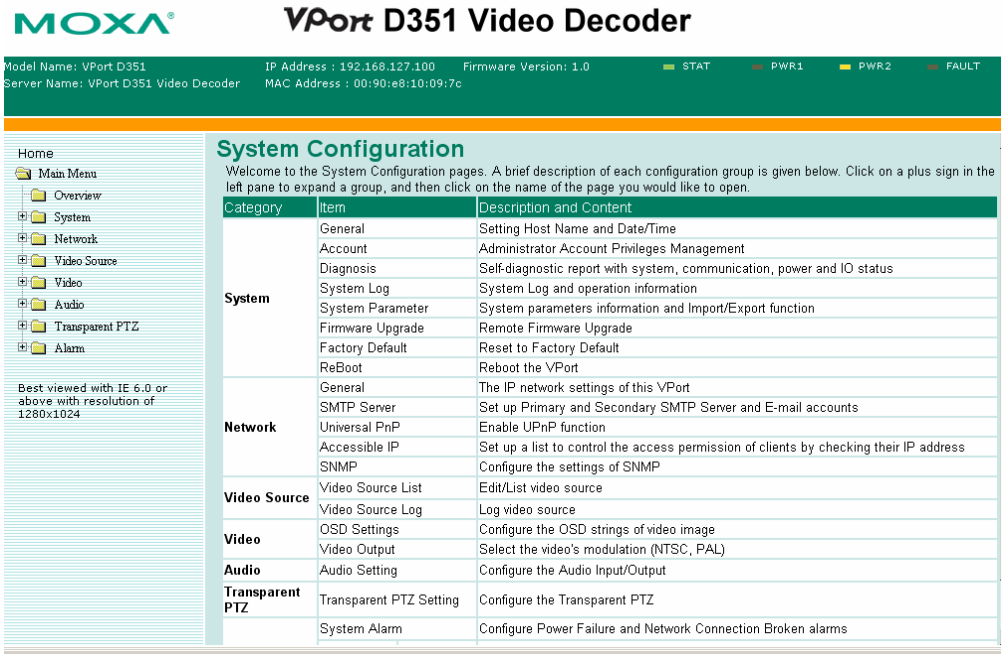


NOTE Once the VPort D351's homepage opens, administrators can go to **System Configuration → System → Account** to set up the administrator's password. After that, an authentication window will open to request that the administrator input the account name, admin, and the new password.



Step 8: Accessing the VPort's System Configuration

Click on **System Configuration** to access the overview of the system configuration to change the configuration. **Model Name**, **Server Name**, **IP Address**, **MAC Address**, **Firmware Version**, and **LED Status** appear in the green bar near the top of the page. Use this information to check the system information and installation. For details of each configuration, Chapter 4, "System Configuration."



RS-232 Console Configuration (115200, None, 8, 1, VT100)

NOTE **Connection Caution!**

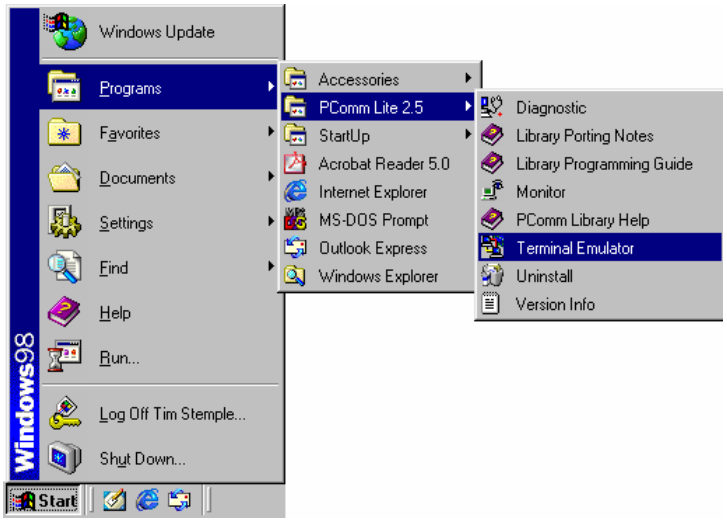
1. You **cannot** connect to the VPort D351 simultaneously by serial console and Telnet.
2. You **can** connect to VPort D351 simultaneously by web browser and serial console, or by web browser and Telnet.
   We strongly recommend that you do NOT use more than one connection method at the same time. Following this advice will allow you to maintain better control over the configuration of your VPort D351.

NOTE We recommend using Moxa PComm Terminal Emulator, which can be downloaded free of charge from Moxa's website.

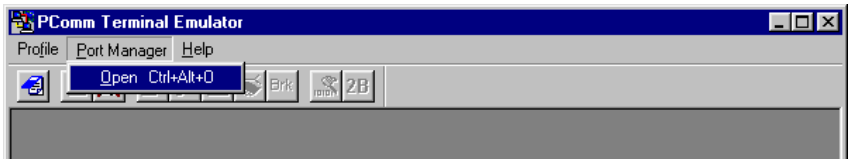
Before running PComm Terminal Emulator, use an RJ45 to DB9-F (or RJ45 to DB25-F) cable to connect the VPort D351's RS-232 console port to your PC's COM port (generally COM1 or COM2, depending on how your system is set up).

After installing PComm Terminal Emulator, perform the following steps to access the RS-232 console utility.

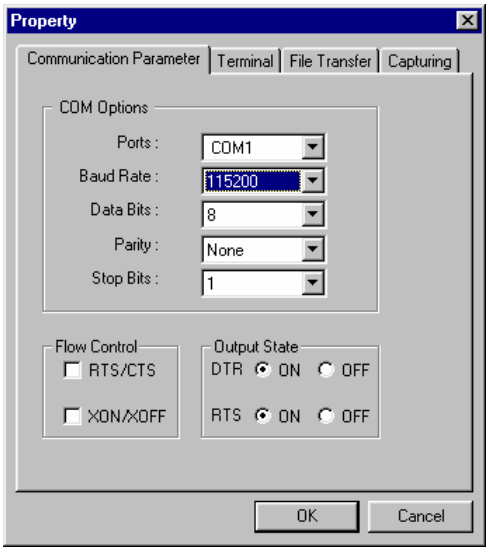
1. From the Windows desktop, click **Start → Programs → PCommLite2.5 → Terminal Emulator**.



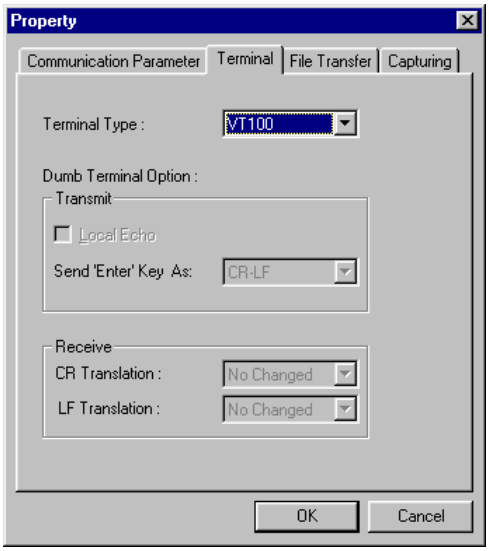
2. Select **Open** under **Port Manager** to open a new connection.



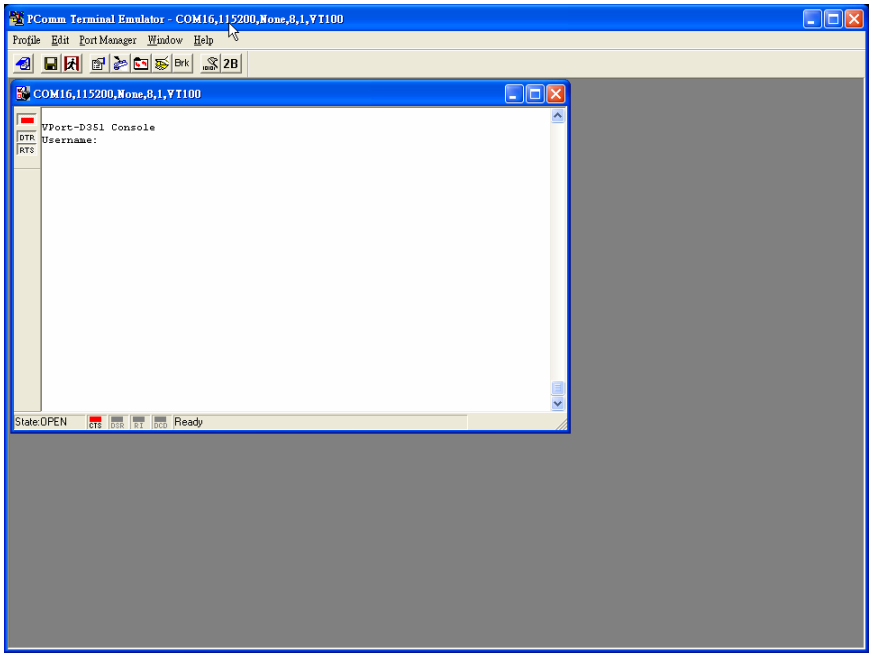
3. The **Communication Parameter** page of the **Property** window opens. Select the appropriate COM port for **Console Connection**, **115200** for **Baud Rate**, **8** for **Data Bits**, **None** for **Parity**, and **1** for **Stop Bits**.



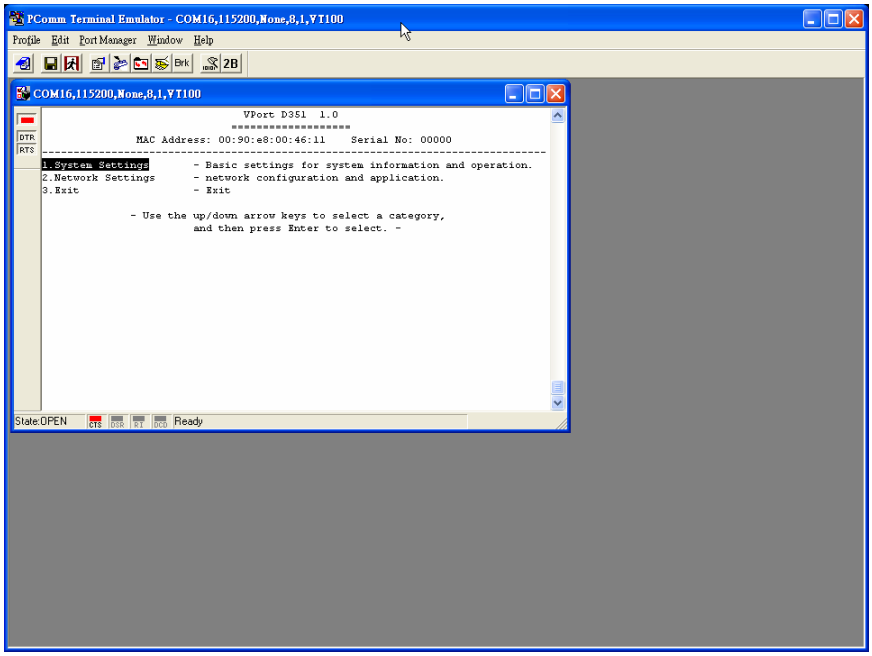
4. Click the **Terminal** tab, and select **VT100** for **Terminal Type**. Click **OK** to continue.



5. A blank screen will appear. Press **Enter** to display a login message for authentication. Only the administrator is allowed to use this console configuration. For this reason, use **admin** as the username and **admin's password** as the password, and then press **Enter**.



6. The VPort D351's console **Main Menu** will appear. (NOTE: To modify the appearance of the PComm Terminal Emulator window, select **Font…** under the **Edit** menu, and then choose the desired formatting options.)

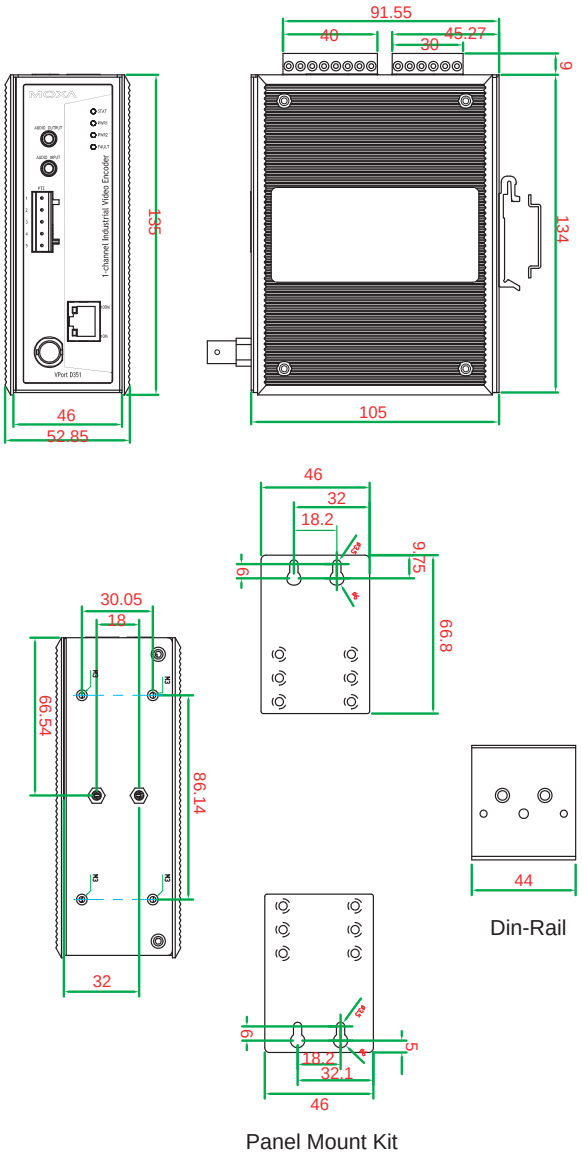

PComm Terminal Emulator - COM16,115200,None,8,1,VT100
Profile Edit Port Manager Window Help
COM16,115200,None,8,1,VT100
VPort D351 1.0
MAC Address: 00:90:e8:00:46:11 Serial No: 00000
1.System Settings - Basic settings for system information and operation.
2.Network Settings - network configuration and application.
3.Exit - Exit
- Use the up/down arrow keys to select a category,
and then press Enter to select. -
State:OPEN
Ready

7. After entering the **Main Menu**, use the following keys to move the cursor, and to select options.

Key	Function
Up/Down/Left/Right arrows, or Tab	Move the onscreen cursor
Enter	Display & select options
Space	Toggle options
Esc	Previous Menu

Mounting the VPort D351

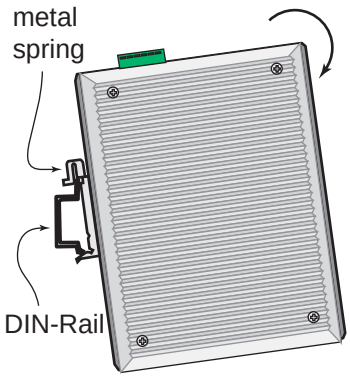
Mounting Dimensions (unit= mm)



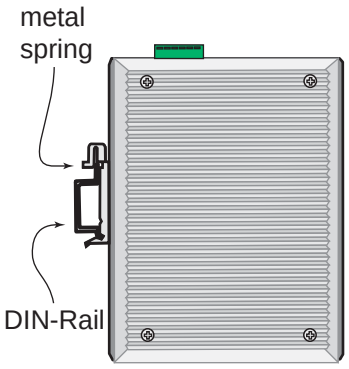
DIN-Rail Mounting

The aluminum DIN-Rail attachment plate should already be attached to the back panel of the VPort D351 when you take it out of the box. If you need to reattach the DIN-Rail attachment plate to the VPort D351, make sure the stiff metal spring is situated towards the top, as shown in the figures below.

STEP 1:
Insert the top of the DIN-Rail into the slot just below the stiff metal spring.



STEP 2:
The DIN-Rail attachment unit will snap into place as shown below.

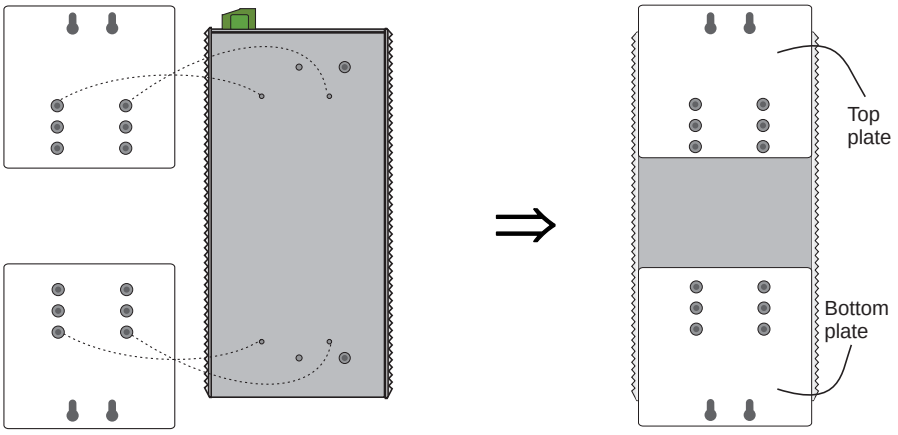


To remove the VPort D351 from the DIN-Rail, simply reverse Steps 1 and 2 above.

Wall Mounting (Optional)

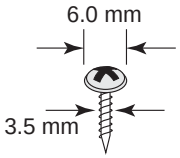
For some applications, you will find it convenient to mount the VPort D351 on the wall, as shown in the diagrams below.

STEP 1:
Remove the aluminum DIN-Rail attachment plate from VPort 351, and then attach the wall mounting plates, as shown in the diagrams below.



STEP 2:

Mounting the VPort D351 on the wall requires 4 screws. Use the VPort D351, with wall mount plates attached, as a guide to mark the correct locations of the 4 screws. The heads of the screws should be less than 6.0 mm in diameter, and the shafts should be less than 3.5 mm in diameter, as shown in the figure at the right.

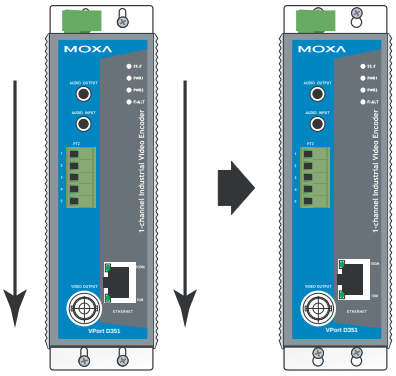


Do not screw the screws in all the way—leave a space of about 2 mm to allow room for sliding the wall mount panel between the wall and the screws.

NOTE Test the screw head and shank size by inserting the screw into one of the keyhole shaped apertures of the wall mounting plates before it is screwed into the wall.

STEP 3:

Once the screws are fixed in the wall, insert the four screw heads through the large parts of the keyhole-shaped apertures, and then slide the VPort D351 downwards, as indicated below. Tighten the four screws for added stability.



Wiring Requirements

ATTENTION

Safety First!

Be sure to disconnect the power cord before installing and/or wiring your Moxa VPort D351.

Calculate the maximum possible current in each power wire and common wire. Observe all electrical codes dictating the maximum current allowable for each wire size.

If the current goes above the maximum ratings, the wiring could overheat, causing serious damage to your equipment.

You should also pay attention to the following:

- Use separate paths to route wiring for power and devices. If power wiring and device wiring paths must cross, make sure the wires are perpendicular at the intersection point.

  NOTE: Do not run signal or communications wiring and power wiring in the same wire conduit. To avoid interference, wires with different signal characteristics should be routed separately.
- You can use the type of signal transmitted through a wire to determine which wires should be kept separate. The rule of thumb is that wiring that shares similar electrical characteristics can be bundled together.
- Keep input wiring and output wiring separated.
- It is strongly advised that you label wiring to all devices in the system when necessary.

Grounding the Moxa VPort D351

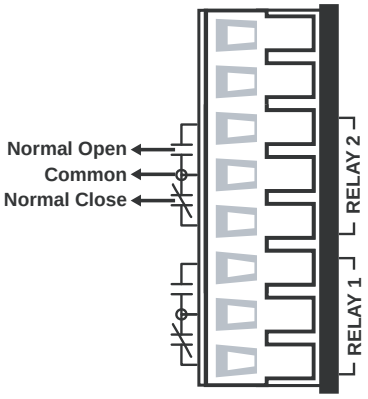
Grounding and wire routing help limit the effects of noise due to electromagnetic interference (EMI). Run the ground connection from the ground screw to the grounding surface prior to connecting devices.

ATTENTION

This product is intended to be mounted to a well-grounded mounting surface such as a metal panel.

Wiring the Relay Output

The VPort D351 has two sets of relay output—relay 1 and relay 2—located on the 8-pin terminal block connector. Each relay output consists of the 3 contacts of the terminal block on the VPort D351's top panel.



The Relay Output can be set up for:

1. System alarm: In this case, power failure and network disconnected.
2. Event alarm: Digital inputs.

ATTENTION

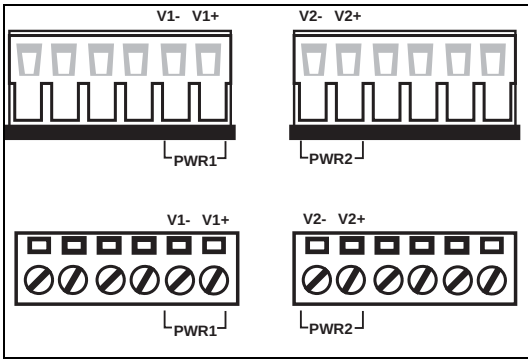
The current and power capacity of the relay output is a maximum of 24 VDC @ 1A. You should be careful not to exceed this power specification.

ATTENTION

Before connecting the VPort to the DC/AC power inputs, make sure the voltage from the DC power source is stable.

Wiring the Redundant Power Inputs

The VPort D351 has two sets of power inputs—power input 1 and power input 2—located on the 6-pin and 8-pin terminal block connectors. Top and front views of the terminal block connectors are shown here.



STEP 1: Insert the negative/positive DC or AC wires into the V-/V+ terminals.

STEP 2: To keep the DC or AC wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

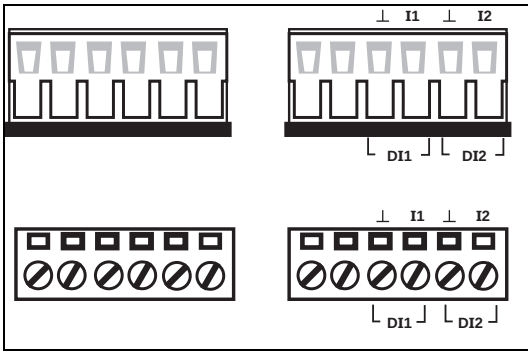
STEP 3: Insert the plastic terminal block connector prongs into the terminal block receptor, which is located on VPort D351's top panel.

ATTENTION

The power for this product is intended to be supplied by a Listed Power Unit, with output marked LPS, and rated to deliver 12 to 32 VDC at a maximum of 740 mA, or 18 to 30 VAC at a maximum of 890 mA.

Wiring the Digital Inputs

The VPort D351 has two sets of digital inputs—DI 1 and DI 2. Each DI consists of two contacts of the 6-pin terminal block connector on the VPort's top panel. Top and front views of one of the terminal block connectors are shown here.



STEP 1: Insert the negative (ground)/positive DI wires into the ⊥/I1 terminals.

STEP 2: To keep the DI wires from pulling loose, use a small flat-blade screwdriver to tighten the wire-clamp screws on the front of the terminal block connector.

STEP 3: Insert the plastic terminal block connector prongs into the terminal block receptor, which is located on the VPort D351's top panel.

The VPort D351's DI 1 and DI 2 can also be used for controlling the selection of the video source. Administrators can set up this function by checking the **Enable DI Change** checkbox under **System Configuration/Video Source/Video Source List**. The DI 1 can then do backward video source selection (e.g., from video source 2 to video source 1), and DI 2 can do forward video source selection (e.g., from video source 1 to video source 2).

Communication Connections

10/100BaseT(X) Ethernet Port Connection

The 10/100BaseT(X) port located on the VPort D351's front panel is used to connect to Ethernet-enabled devices.

Below we show pinouts for both the MDI (NIC-type) port and MDI-X (HUB/Switch-type) port, and we also show cable wiring diagrams for straight-through and cross-over Ethernet cables.

Auto MDI/MDI-X

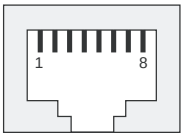
(MDI) Port Pinouts

Pin	Signal
1	Tx+
2	Tx-
3	Rx+
6	Rx-

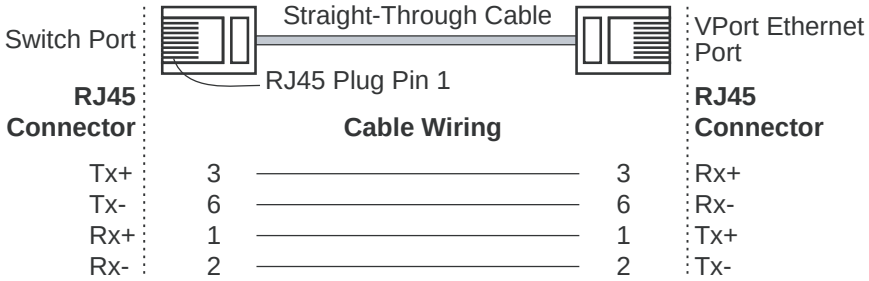
(MDI-X) Port Pinouts

Pin	Signal
1	Rx+
2	Rx-
3	Tx+
6	Tx-

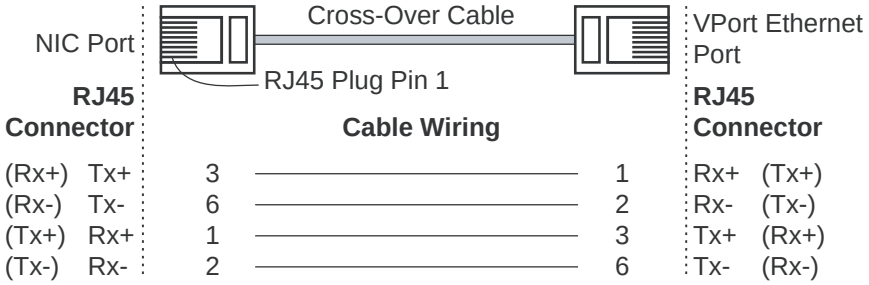
8-pin RJ45



RJ45 (8-pin) to RJ45 (8-pin) Straight-through Cable Wiring



RJ45 (8-pin) to RJ45 (8-pin) Cross-over Cable Wiring



3

Accessing the VPort D351's Web-based Manager

This chapter includes information about how to access VPort D351 Video Decoder for the first time.

The following topics are covered:

- **Functions Featured on the VPort's Web Homepage**
  - Basic Information
  - Current Video Source information
  - Video Source Selection
  - Video Source List
  - System Configuration
  - Relay Control

Functions Featured on the VPort's Web Homepage

The homepage of the VPort's Web-based Manager shows basic information about the VPort, camera image view, and configurations for client and server.

NOTE For best viewing use 1280 x 1024 resolution when viewing the VPort's web homepage.

Basic Information

This section shows the VPort's model name, server name, IP address, MAC address, firmware version, and the display status of the LEDs located on the VPort's front panel.

NOTE The VPort LEDs shown on the VPort's web homepage are updated every 10 seconds.

Current Video Source information

This section presents the video sources' display modes, and information related to the video source currently being displayed. Administrator can access **System Configuration/video source** to modify the configurations.

Video Source Selection

For convenience, buttons are available for manually selecting the specified video source. Administrators can use the **UP** and **DOWN** buttons to change the video source one by one, or directly input the Idx (index) number of the video source.

Video Source List

A maximum of 64 video sources can be added to the VPort D351's video source list. The following parameters can be modified:

1. **Idx**: video source Index
2. **Source Description**: customized video source description
3. **Address**: IP address or domain name of video source; administrator can click on the address to link to the video source's web-based manager page.
4. **Camera Idx**: camera index of the video source
5. **Media**: decode video& audio, video only, or audio only
6. **OSD**: the OSD (on-screen display) function is enable or disable
7. **Alarm trigger**: enable or disable the function that automatically makes the video source that triggers an alarm the video source that is being displayed.
8. **Transparent PTZ Control:** transparent PTZ function control is enabled or disabled
9. **Audio post:** when enabled, users can both view the video source and hear the audio; when disabled, only the video is available.

System Configuration

A button or text link on the left side of the system configuration window only appears on the administrator's main page. For detailed system configuration instructions, refer to Chapter 4, **System Configuration**.

Relay Control

The VPort D351 has 2 relay outputs for external devices, such as alarms. Administrators and users who have been given access can click on **Open** to short the **Common** and **Normal Open** digital output pins, or click on **Close** to short the **Common** and **Normal Close** digital output pins.

4

System Configuration

After installing the hardware, the next step is to configure the VPort D351's settings. The web-based manager can be used to access configuration options.

This chapter includes the following sections:

- **Using the Web-based Manager for System Configuration**
  - System
  - Network
  - Video Source
  - Video
  - Audio
  - Transparent PTZ
  - Alarm

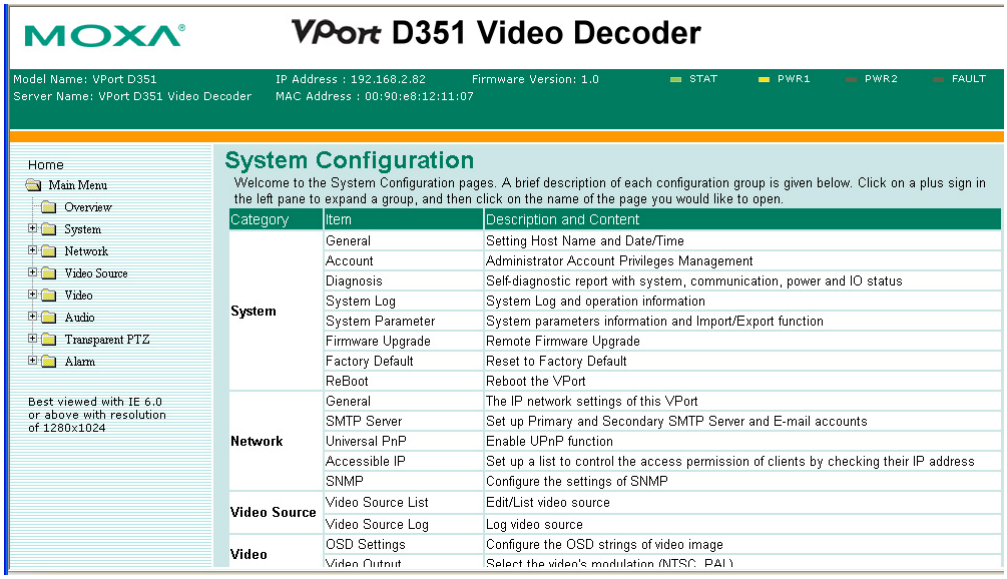
Using the Web-based Manager for System Configuration

System configuration can be done remotely with Internet Explorer through the web server. Alternatively, administrators may type the system configuration URL, **http://<IP address of Video Server>/setup/config.html**, to enter the configuration page directly. Administrators who wish to set up certain options using the URL should refer to the relevant section in Chapter 6, **URL Commands**, for information about advanced functions.

Five categories of configuration are involved in configuring the system: **System**, **Network**, **Video**, **Audio**, and **Alarm**. A description of each configuration item is shown in the table below:

Category	Item		Description and Contents
System	General		Set Host Name and Date/Time
	Accounts		Administrator Account Privileges Management
	Diagnosis		Self-diagnostic report with system, communication, power and IO status
	System Log		System Log and operation information
	System Parameter		System parameters information and Import/Export functions
	Firmware Upgrade		Remote Firmware Upgrade
	Factory Default		Reset to Factory Default
	Reboot		Reboot the VPort
Network	General		The IP network settings of this VPort
	SMTP Server		Set up Primary and Secondary SMTP Server and e-mail accounts
	Universal PnP		Enable UPnP function
	Multicast		Set up Multicast (IGMP) Streaming
	Accessible IP		Set up a list to control the access permission of clients by checking their IP address
	SNMP		Configure the settings of SNMP
Video Source	Video Source List		Edit/List video source
	Video Source Log		Log video source
Video	OSD Settings		Configure the OSD strings of video image
	Video Output		Select the video's modulation (NTSC, PAL)
Audio	Audio Setting		Configure the Audio Input/Output
Transparent PTZ	Transparent PTZ Setting		Configure the Transparent PTZ
Alarm	System Alarm		Configure Power Failure and Network Connection Broken alarms
	Event Alarm	Basic	General settings of event alarm
		Schedule	Set up the Alarm schedule
		Digital Input	Configure the Digital Input Alarm

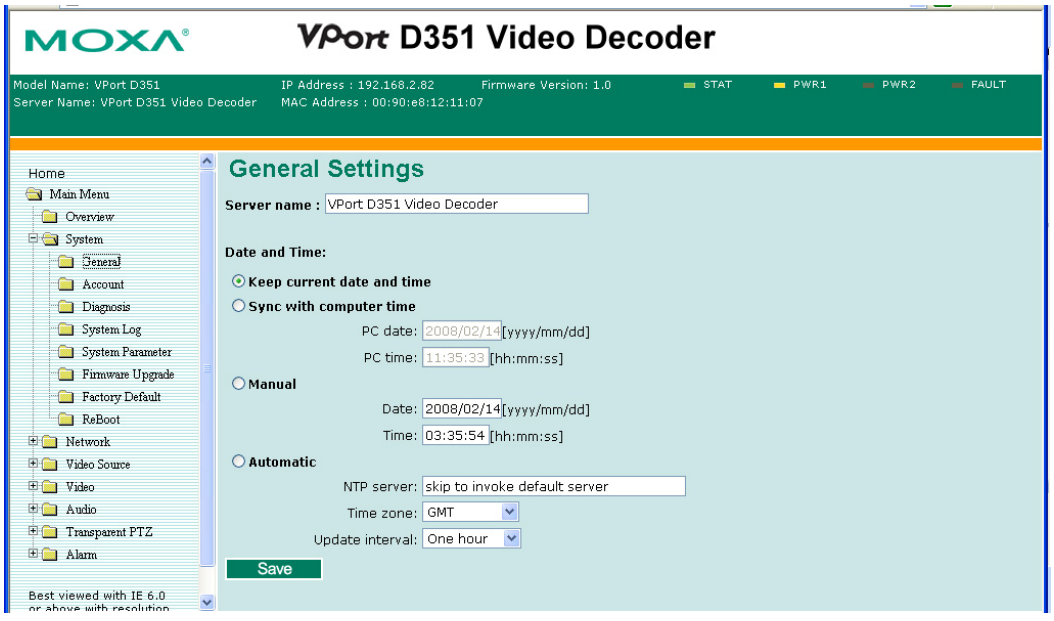
This table also appears on the **System Configuration → Overview** webpage.



System

General Settings

On the **General Settings** page, administrators can set up the video **Server name** and the **Date and Time**, which appear in the image's caption.



Server name

Setting	Description	Default
Max. 40 characters	Use a different server name for each server to help identify the different servers. The name appears on the web homepage.	VPort D351 Video Decoder

Date and Time

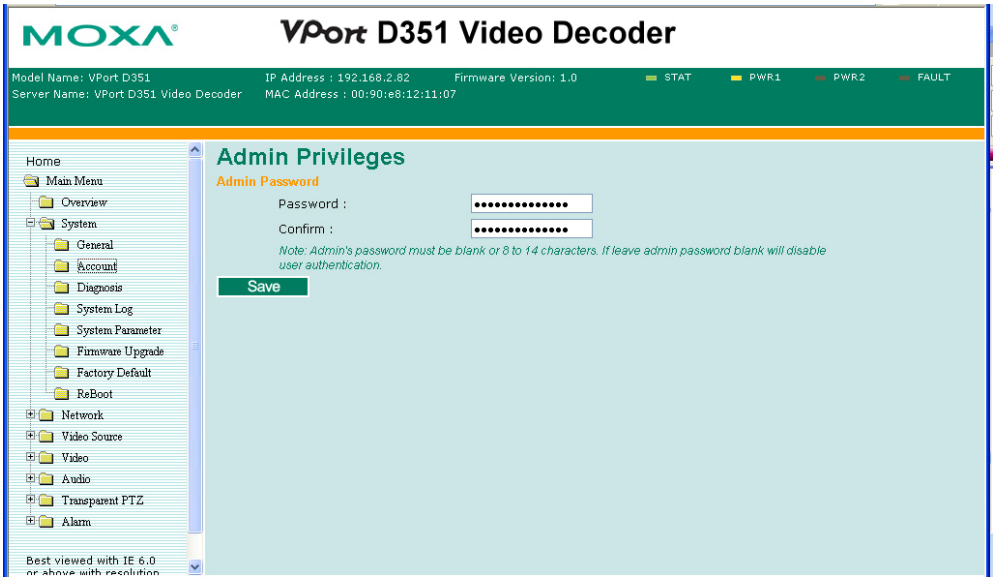
Setting	Description	Default
Keep current date and time	Use the current date and time as the VPort's time settings.	Keep current date and time
Sync with computer time	Synchronize the VPort's date and time settings with the local computer time.	
Manual	Manually change the VPort's date and time settings.	
Automatic	Use the NTP server to change the VPort's date and time settings in a given period.	

NOTE Select the **Automatic** option to force the VPort to synchronize automatically with timeservers over the Internet. However, synchronization may fail if the assigned **NTP server** cannot be reached, or the VPort is connected to a local network. Leaving the **NTP server** blank will force the VPort to connect to default timeservers. Enter either the Domain name or IP address format of the timeserver if the DNS server is available.

Don't forget to set the **Time zone** for local settings. Refer to Appendix G for your region's time zone.

Account Privileges

The VPort D351 only allows the administrator to access the web-based manager.



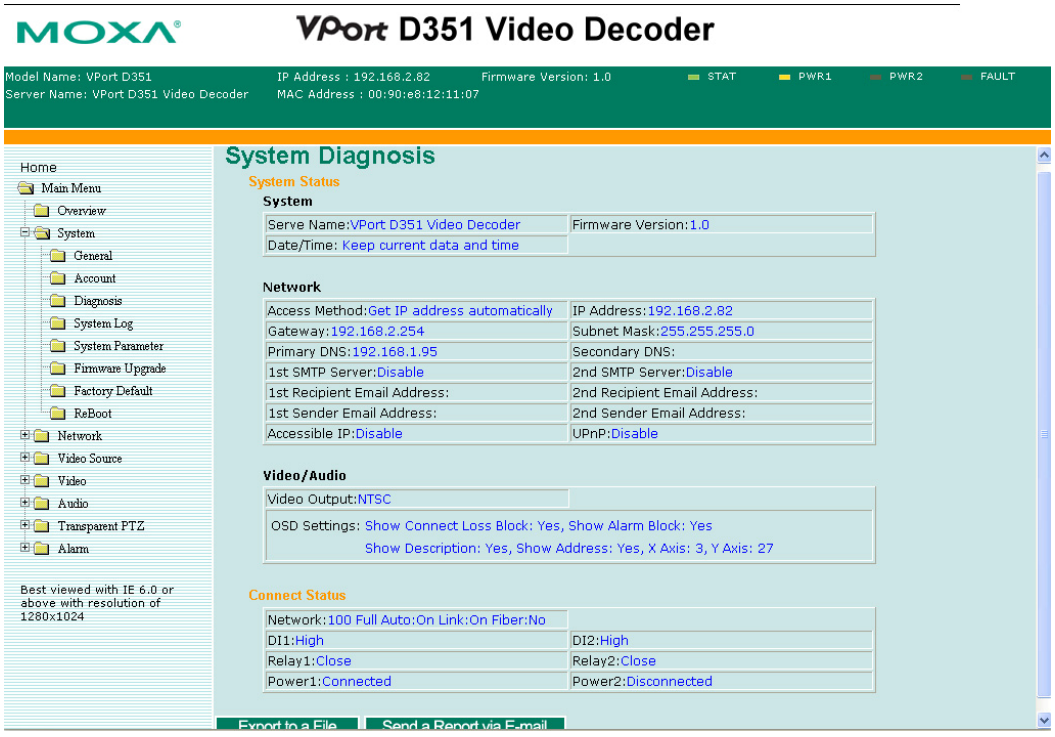
Admin password

Setting	Description	Default
Admin Password (max. 14 characters)	Administrator can type the new password in this box.	None
Confirm Password (max. 14 characters)	If a new password is typed in the **Admin Password** box, you will need to retype the password in the **Confirm Password** box before updating the new password.	

NOTE The default account name for administrator is **admin**; the administrator account name cannot be changed.

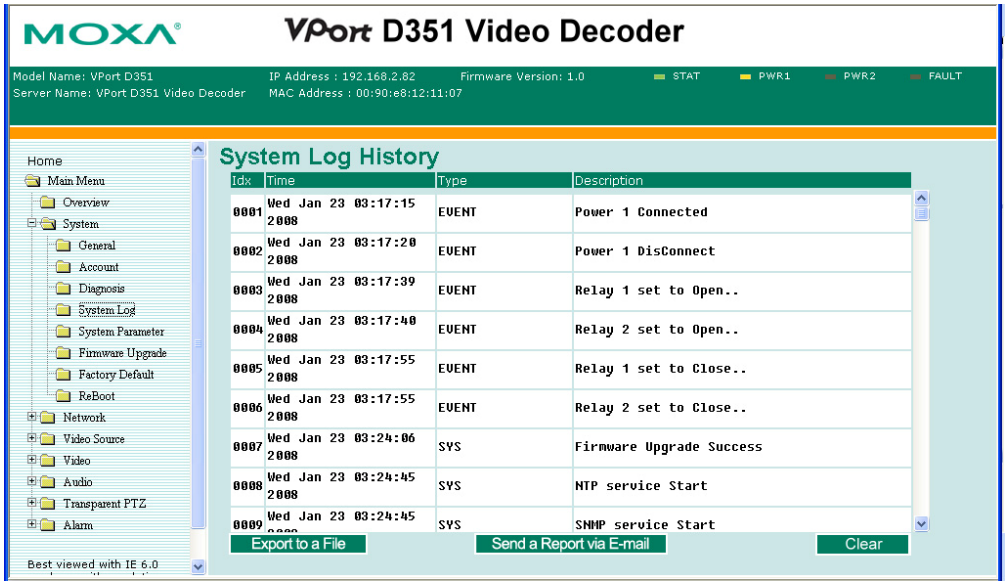
System Diagnosis

VPort products have a self-diagnosis function to let the administrator get a quick view of the system and connection status. Administrators can save this diagnosis information in a file (diagnosis.log) by clicking the **Export to a File** button, or sending the file by email by clicking **Send a Report via Email** button.



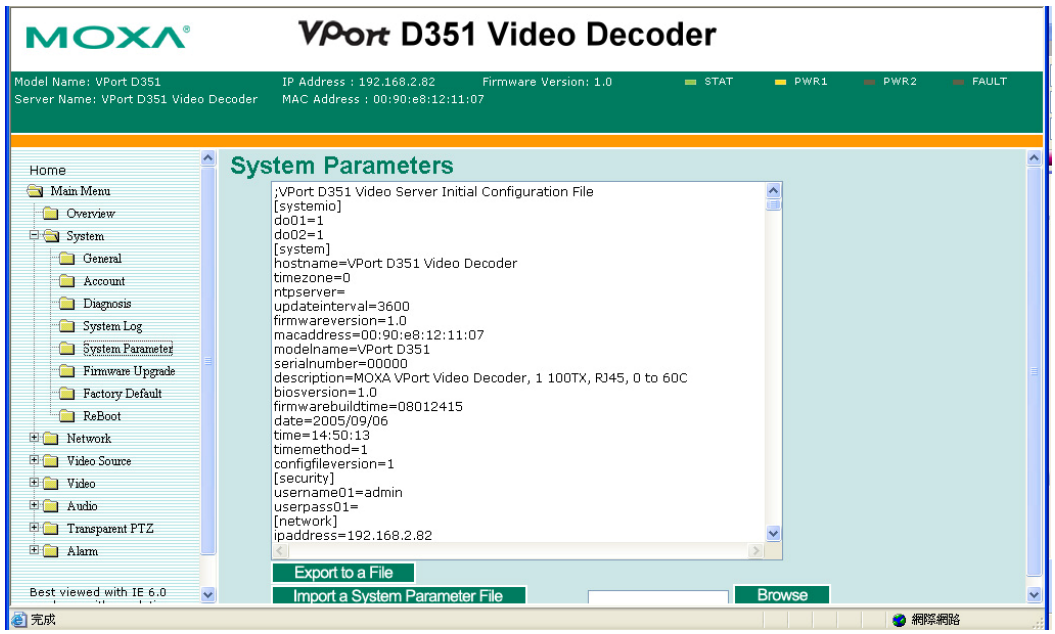
System Log History

The system log contains useful information, including current system configuration and activity history with timestamp for tracking. Administrators can save this information in a file (system.log) by clicking **Export to a File** button, or send the file via email by clicking **Send a Report via Email** button, or clear the log by clicking the **Clear** button.



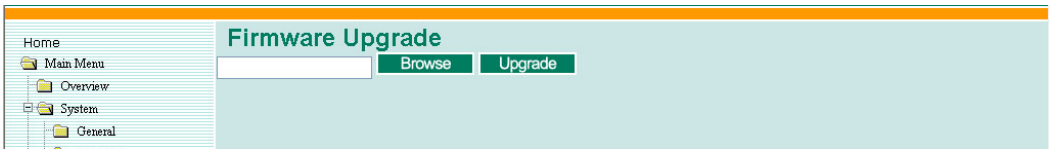
System Parameters

The **System Parameters** page allows you to view all system parameters, which are listed by category. The content is the same as VPort's sys_config.ini file. Administrators can also save this information in a file (sys_config.ini) by clicking the **Export to a File** button, or import a file by clicking the **Browse** button to search a sys_config.ini file and the **Import a System Parameter File** button to update all the system configurations quickly.



NOTE The system parameter import/export functions allow the administrator to back up and restore system configurations. The Administrator can export this sys_config.ini file (in a special binary format) for backup, and import the sys_config.ini file to restore the system configurations of the VPort. System configurations will be changed immediately after the VPort is rebooted.

Firmware Upgrade



Take the following steps to upgrade the firmware:

Step 1: Press the **Browse** button to select the firmware file.

NOTE For VPort D351, the firmware file extension should be .**rom**.

Step 2: Click on the **Upgrade** button to upload the firmware to the VPort.

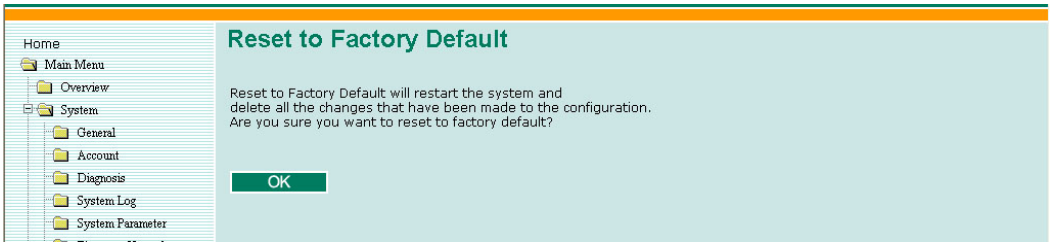
Step 3: The system will start the firmware upgrade process.

Step 4: Once **Firmware Update Success…..Reboot....** is shown, wait a few seconds for the VPort to reboot. The reboot process is finished once the **STAT** LED is lit continuously in green.

NOTE Firmware upgrade will not change the original settings.

Reset to Factory Default

Reset to the factory default by clicking on the **OK** button (as shown in the following figure).



NOTE All parameters will be reset to factory defaults when you use the **Factory Default** function. For this reason, if you want to keep a digital copy of the current configuration, remember to export the sys_config.ini file before using the Factory Default function.

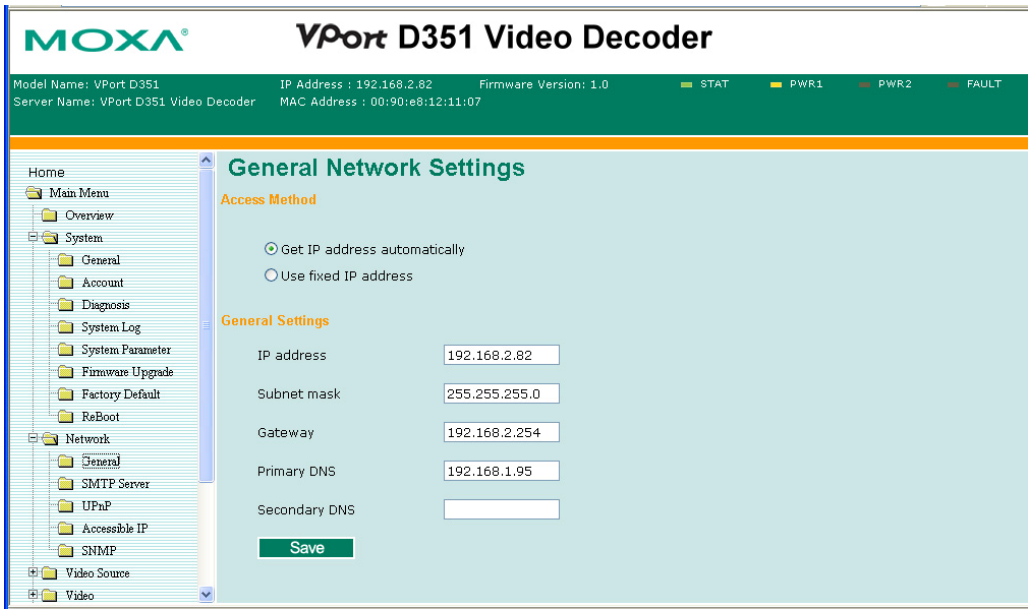
Reboot

From the "Device Reboot" page, click **OK** (as shown in the following figure) to restart the VPort's operating system.

Network

General Network Settings

The **General Network Settings** page includes some basic but important network configurations that enable the VPort to be connected to a TCP/IP network.



Access Method

VPort products support the DHCP protocol, which means that the VPort can get its IP address from a DHCP server automatically when it is connected to the TCP/IP network. The Administrator should determine if it is more appropriate to use DHCP, or assign a fixed IP.

Setting	Description	Default
Get IP address automatically	VPort gets the IP address automatically from the DHCP server.	Get IP address automatically
Use fixed IP address	Uses the IP address assigned by the administrator.	

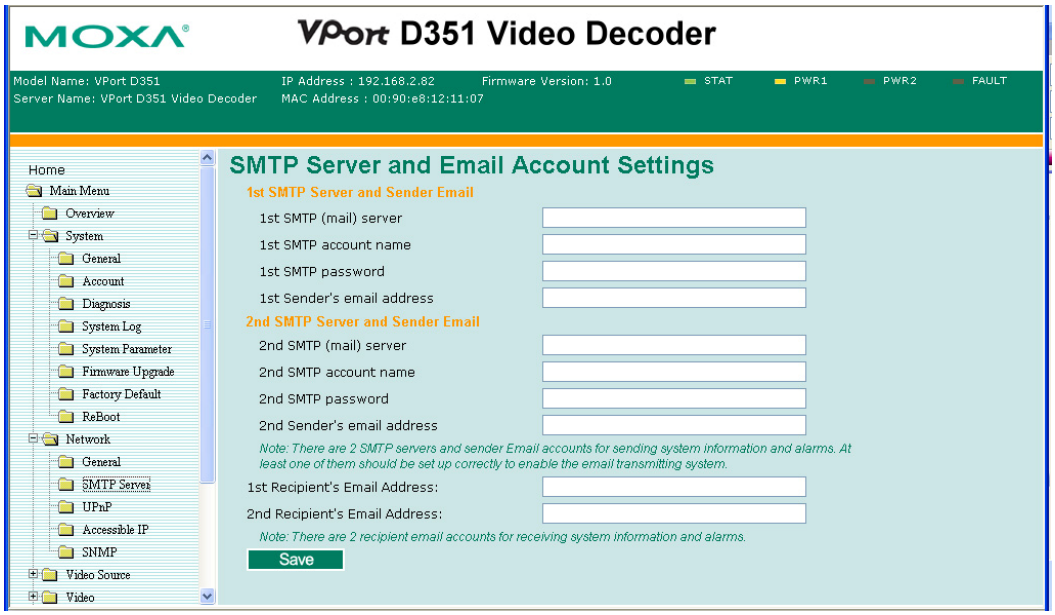
NOTE We strongly recommend that the administrator assign a fixed IP address to the VPort, since all of the functions and applications provided by VPort are active when the VPort is connected to the network. Use DHCP to determine if the VPort's IP address may change when then network environment changes, or the IP address is occupied by other clients.

General Settings

Setting	Description	Default
IP address	Variable IP assigned automatically by the DHCP server, or fixed IP assigned by the Administrator.	192.168.127.100
Subnet mask	Variable subnet mask assigned automatically by the DHCP server, or a fixed subnet mask assigned by the Administrator.	255.255.255.0
Gateway	Assigned automatically by the DHCP server, or assigned by the Administrator.	blank
Primary DNS	Enter the IP address of the DNS Server used by your network. After entering the DNS Server's IP address, you can input the VPort's url (e.g., www.VPort.company.com) in your browser's address field, instead of entering the IP address.	Gotten automatically from the DHCP server, or blank in non-DHCP environment
Secondary DNS	Enter the IP address of the DNS Server used by your network. The VPort will try to locate the secondary DNS Server if the primary DNS Server fails to connect.	Gotten automatically get from the DHCP server, or left blank in a non-DHCP environment

SMTP Server and Email Account Settings

The VPort not only plays the role of server, but can also connect to outside servers to send system or alarm messages. If the administrator has set up some applications in either system information or alarm, the VPort will send out messages or snapshots once these conditions occur.



1st SMTP Server and Sender Email

Setting	Description	Default
1st SMTP (mail) server	SMTP Server's IP address or URL address.	None
1st SMTP account name	For security reasons, most SMTP servers require the account name and password to be authenticated.	None
1st SMTP password		None
1st Sender's email address	For security reasons, SMTP servers must see the exact sender email address.	None

NOTE Note that if the **Sender's email address** is not set, a warning message will pop up and the e-mail system will not be allowed to operate.

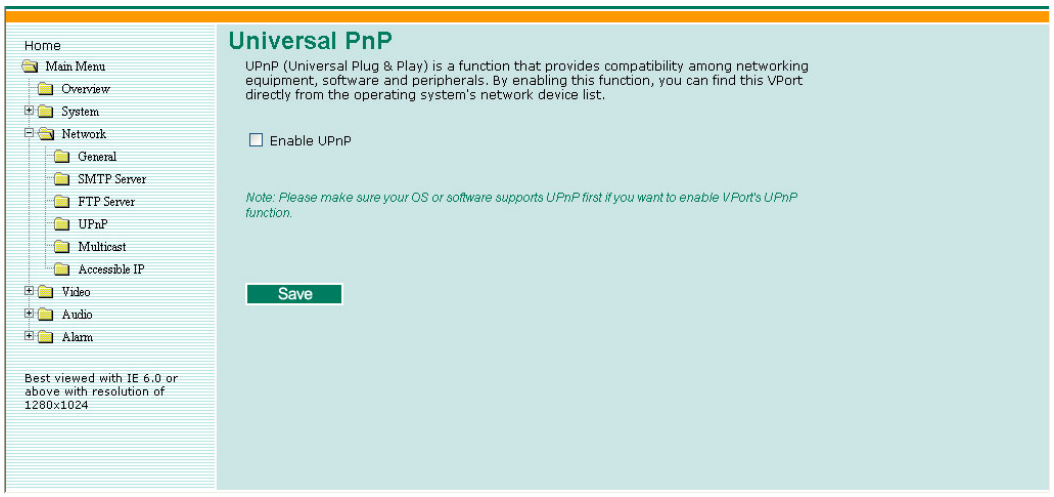
NOTE The **2nd SMTP Server** and Sender Email are backups that are used if the 1st SMTP Server and Sender Email fail when connecting or sending email.

Two recipient email accounts are available for receiving emails sent by the VPort. For redundancy, both addresses receive the messages and alarm snapshots simultaneously.

Setting	Description	Default
1st Recipient's Email Address	Email address of the 1st recipient.	None
2nd Recipient's Email Address	Email address of the 2nd recipient.	None

Universal PnP

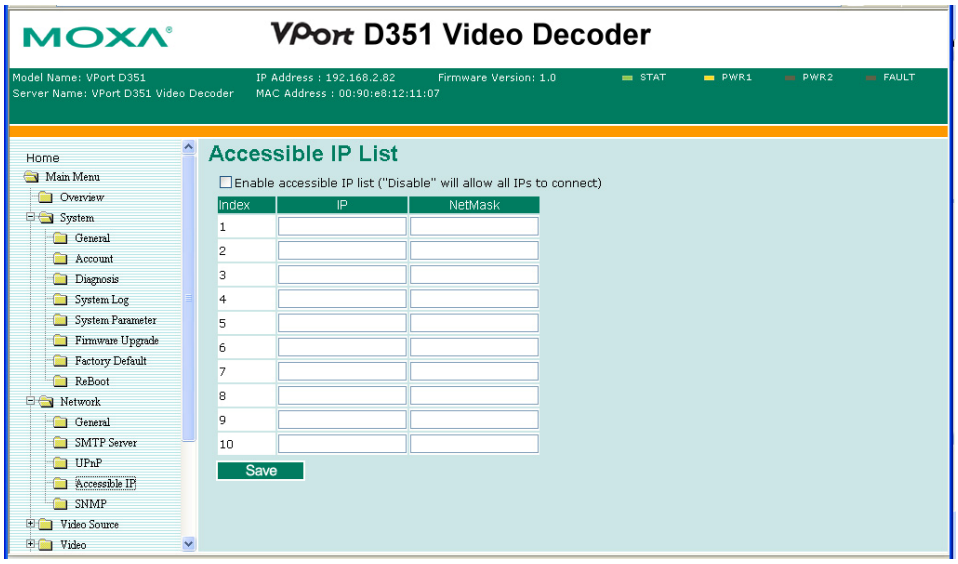
UPnP (Universal Plug & Play) is a networking architecture that provides compatibility between networking equipment, software, and peripherals of the 400+ vendors that are part of the Universal Plug and Play Forum. This means that they are listed in the network devices table for the operating system (such as Windows XP) supported by this function. Users can link to the VPort directly by clicking on the VPort listed in the network devices table.


Home
Main Menu
Overview
System
Network
General
SMTP Server
FTP Server
UPnP
Multicast
Accessible IP
Video
Audio
Alarm
Best viewed with IE 6.0 or above with resolution of 1280x1024
Universal PnP
UPnP (Universal Plug & Play) is a function that provides compatibility among networking equipment, software and peripherals. By enabling this function, you can find this VPort directly from the operating system's network device list.
Enable UPnP
Note: Please make sure your OS or software supports UPnP first if you want to enable VPort's UPnP function.
Save

Setting	Description	Default
Enable UPnP	Enable or disable the UPnP function.	Enable

Accessible IP List

The VPort D351 uses an IP address-based filtering method to control access to the VPort.



Accessible IP Settings allows you to add or remove "Legal" remote host IP addresses to prevent unauthorized access. Access to the VPort is controlled by IP address. That is, if a host's IP address is in the accessible IP table, then the host will be allowed access to the VPort. Administrators can allow one of the following cases by setting this parameter:

- Only one host with a specific IP address can access the VPort.
  Enter "IP address/255.255.255.255" (e.g., 192.168.1.1/255.255.255.255)
- Hosts on a specific subnet can access the VPort.
  Enter "IP address/255.255.255.0" (e.g., "192.168.1.0/255.255.255.0")
- Any host can access the VPort.
  Disable this function.

Refer to the following table for more configuration examples.

Allowable Hosts	Input Formats
Any host	Disable
192.168.1.120	192.168.1.120/255.255.255.255
192.168.1.1 to 192.168.1.254	192.168.1.0/255.255.255.0
192.168.0.1 to 192.168.255.254	192.168.0.0/255.255.0.0
192.168.1.1 to 192.168.1.126	192.168.1.0/255.255.255.128
192.168.1.129 to 192.168.1.254	192.168.1.128/255.255.255.128

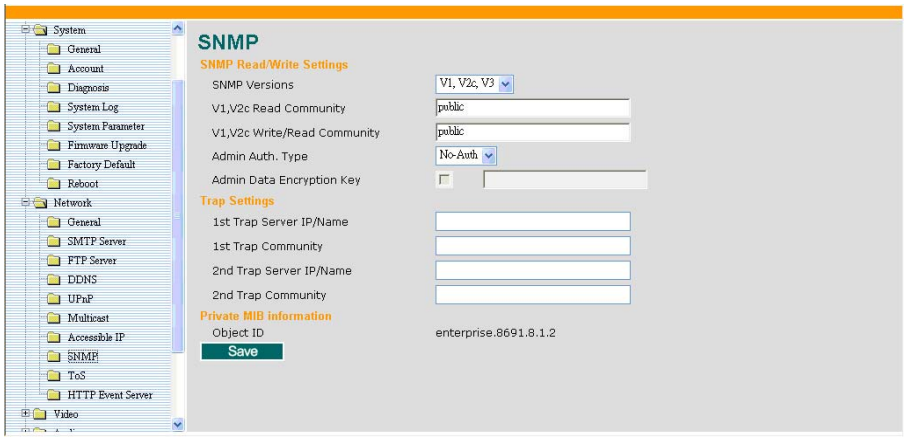
SNMP

VPort supports three SNMP protocols. The available protocols are SNMP V1, SNMP V2c, and SNMP V3. The SNMP V1 and SNMP V2c protocols use a community string match for authentication, which means that SNMP servers access all objects with read-only or read/write permissions using the community string public/private (default value). The SNMP V3 protocol, which requires you to select an authentication level of MD5 or SHA, is the most secure protocol. You can also enable data encryption to enhance data security. SNMP security modes and security levels supported by the VPort are shown in the following table. Select one of these options to communicate between the SNMP agent and manager.

Protocol Version	Security Mode	Authentication Type	Data Encryption	Method
SNMP V1, V2c	V1, V2c Read Community	Community string	No	Use a community string match for authentication
	V1, V2c Write/Read Community	Community string	No	Use a community string match for authentication
SNMP V3	No-Auth	No	No	Use account with admin or user to access objects
	MD5 or SHA	MD5 or SHA	No	Provides authentication based on HMAC-MD5, or HMAC-SHA algorithms. 8-character passwords are the minimum requirement for authentication.
	MD5 or SHA	MD5 or SHA	Data encryption key	Provides authentication based on HMAC-MD5 or HMAC-SHA algorithms, and data encryption key. 8-character passwords and a data encryption key are the minimum requirements for authentication and encryption.

Configuring SNMP Settings

The following figures indicate which SNMP parameters can be configured. A more detailed explanation of each parameter is given below the figure.



SNMP Read/Write Settings

SNMP Versions

Setting	Description	Default
V1, V2c, V3	Select SNMP Versions V1, V2c, V3 protocol to manage the switch	V1, V2c
V1, V2c	Select SNMP Versions V1, V2c protocol to manage the switch	
V3 only	Select SNMP Versions V3 protocol only to manage the switch	

V1, V2c Read Community

Setting	Description	Default
V1, V2c Read Community	Use a community string match for authentication, which means that the SNMP agent accesses all objects with read-only permissions using the community string **public**.	public (max. 30 characters)

V1, V2c Read/Write Community

Setting	Description	Default
V1, V2c Read/Write Community	Use a community string match for authentication, which means that the SNMP agent accesses all objects with read-only permissions using the community string **public**.	public (max. 30 characters)

For SNMP V3, there are two levels of privilege for different accounts to access the VPort. Admin privilege allows access and authorization to read and write MIB files. User privilege only assigns read-access of MIB files, but does not assign write-access.

Root Auth. Type (For SNMP V1, V2c, V3, and V3 only)

Setting	Description	Default
No-Auth	Use admin account to access objects. No authentication	No
MD5-Auth	Provide authentication based on the HMAC-MD5 algorithms. 8-character passwords are the minimum requirement for authentication.	No
SHA- Auth	Provide authentication based on the MAC-SHA algorithms. 8-character passwords are the minimum requirement for authentication.	No

Root Data Encryption Key (For SNMP V1, V2c, V3, and V3 only)

Setting	Description	Default
Enable	The data encryption key must be between 8 and 30 characters	No
Disable	No data encryption	No

User Auth. Type (For SNMP V1, V2c, V3, and V3 only)

Setting	Description	Default
No-Auth	Use admin or user account to access objects; authentication not required	No
MD5-Auth	Provides authentication based on the HMAC-MD5 algorithms; 8-character passwords are the minimum requirement for authentication.	No
SHA- Auth	Provides authentication based on the HMAC-SHA algorithms' 8-character passwords are the minimum requirement for authentication.	No

User Data Encryption Key (For SNMP V1, V2c, V3, and V3 only)

Setting	Description	Default
Enable	8-character data encryption key is the minimum requirement for data encryption. Maximum 30-character encryption key	No
Disable	No data encryption	No

Trap Settings

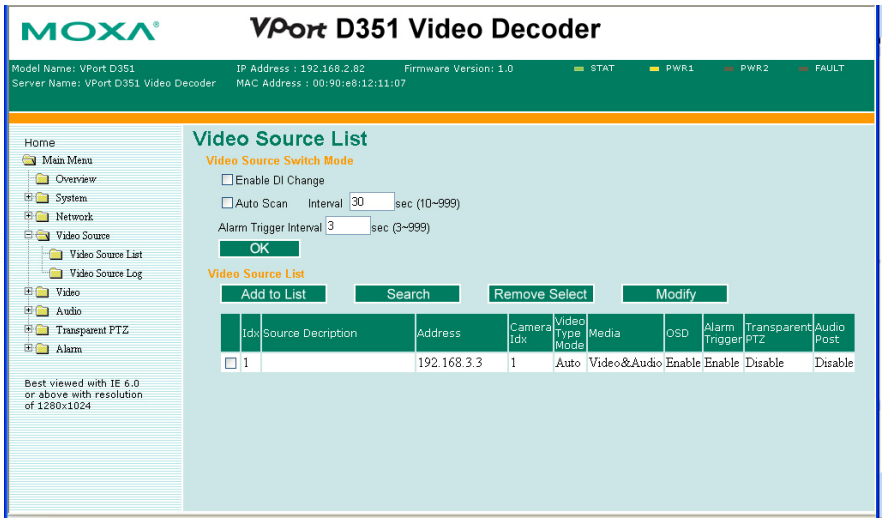
Setting	Description	Default
Trap Server IP/Name	Enter the IP address or name of the Trap Server used by your network.	No
Trap Community	Use a community string match for authentication; maximum of 30 characters.	No

Private MIB information

The private SNMP Object ID of the VPort is the enterprise value: 8691.8.1.2. This number cannot be changed.

Video Source

Video Source List



A maximum of 64 video sources can be added to the VPort D351's video source list. The Administrator can configure the video source operation settings on this page.

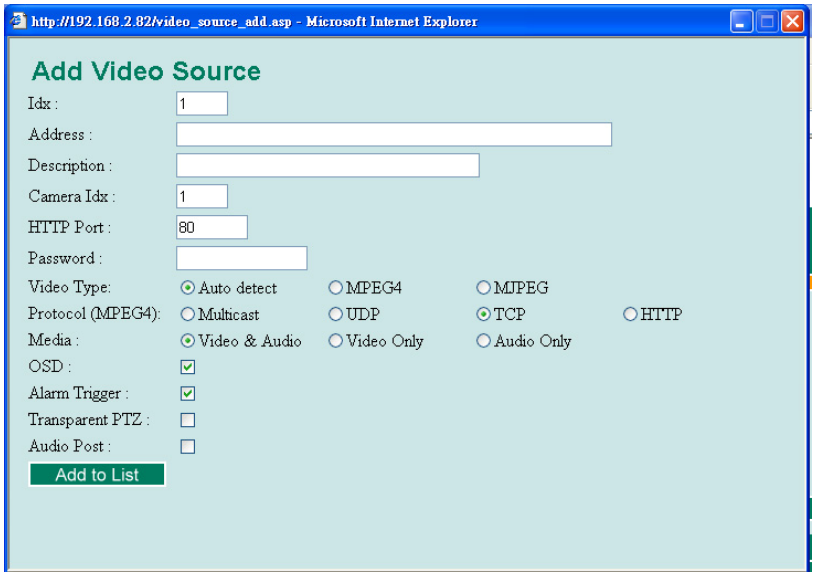
Video Source Switch Mode

Setting	Description	Default
Enable DI change	Enable the video source change via the DI. DI 1 selects UP (from 1 to 2) DI2 selects DOWN (from 2 to 1)	Disabled
Auto Scan	Enable the video source change in automatically scanning all the video sources in the list	Disabled
Interval	Time interval for switching the current video source to the next video source in auto scan mode	30 sec (10-999)
Alarm Trigger Interval	Time interval for doing the video source switch once the next alarm is triggered.	3 sec (3-999)

NOTE The Alarm Trigger Interval is used for the alarm buffer, and is used to prevent several alarms from being triggered at the same time. Otherwise, there could be a conflict in the operation of the video source switch. For this reason, you must set up a time interval between the 2 alarms. The alarms triggered during this time interval will be ignored.

The following description shows how to set up the video source list.

a. Add Video Source

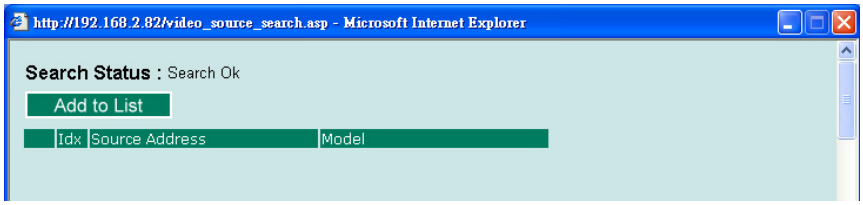


Setting	Description	Default
Idx	The video source index for video source information and selection.	1 (1 to 64)
Address	The domain name or IP address of the video source	Blank (max. 64 bytes)
Description	Customized video source information to give users more information about the video source.	Blank (max. 40 bytes)
Camera Idx	Camera index of the video source. For example, if you are using 4-channel video encoders, the camera idx can help identify which channel is for the video source.	1
HTTP port	The port number of the video source	80
Password	The password of the administrator's account used to access the video source	Blank (max. 14 bytes)
Video type	The video modulation to be decoded	Auto detect
Protocol (MPEG4)	The transmission protocol for MPEG4 video streams	TCP
Media	To select the decode mode as video & audio, video only, or audio only	Video & audio
OSD	To enable or disable the OSD (on-screen display) function	Enable

Alarm Trigger	To enable or disable the alarm trigger function, which is for immediately changing the video source to the alarm–triggered video source	Enable
Transparent PTZ	Enable or disable the transparent PTZ control function	disable
Audio post	Enable or disable the function for posting audio with video	disable

NOTE To enable the Alarm trigger function, the video source must be set up to send alarm messages via the sendalarm.cgi command. Please refer to the Appendix A, "How to Set Up the Alarm Trigger Function."

b. Search



The **Search** function is used to search for video source devices on the network that are on the same domain network as the computer that you are searching from. After the search, the administrator can select the video source device and then click **Add to List** to add this video source to the video source list. After that, the administrator can use the **Modify** function to edit the video source configurations.

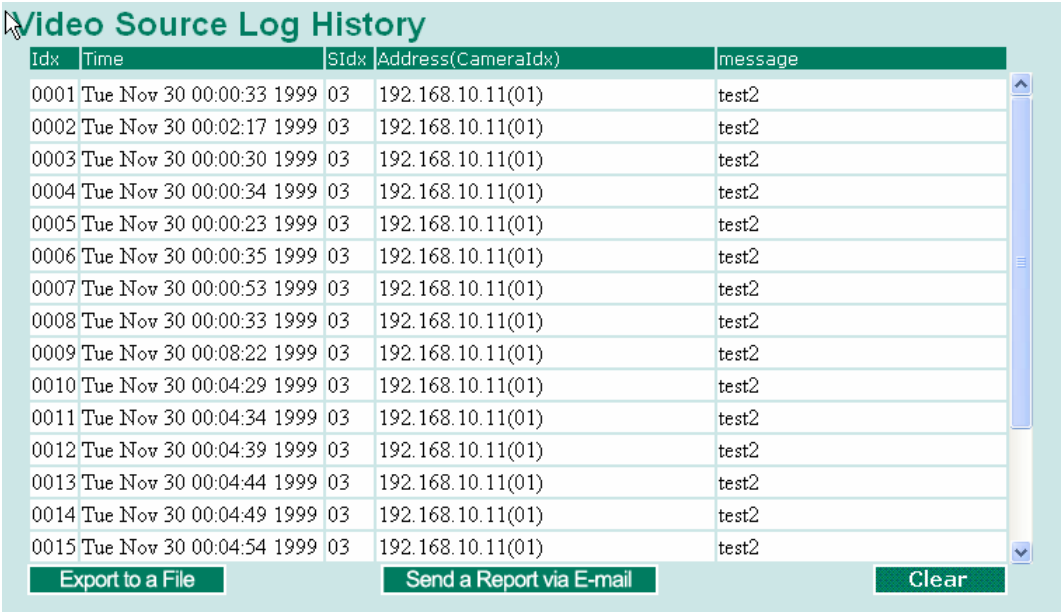
c. Remove Select

This button is for deleting the video source being selected (check the check box).

d. Modify

This button can edit the configurations of the selected video source.

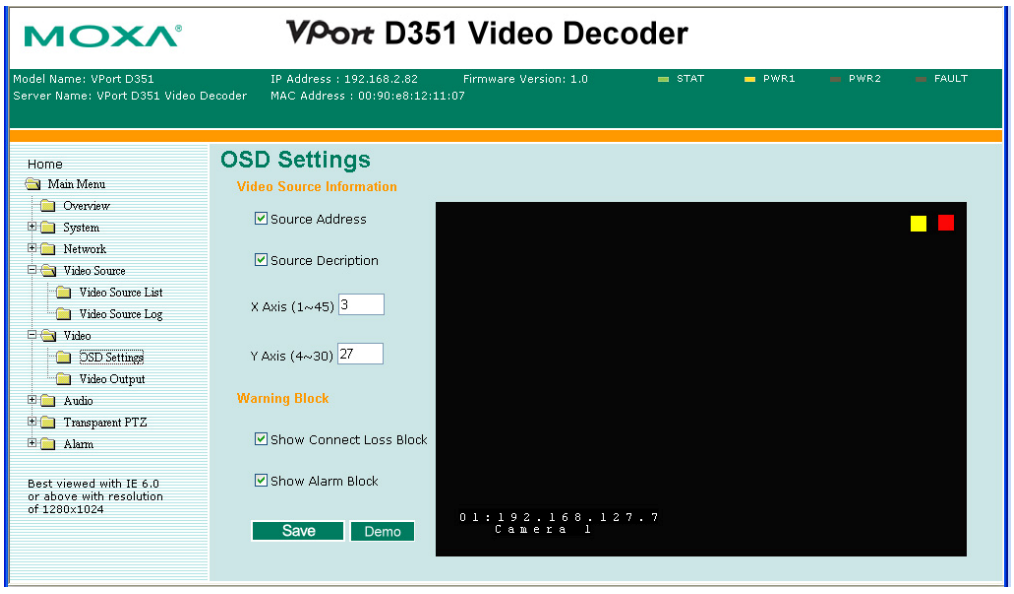
Video Source Log



The **Video Source Log** shows the history of the video source alarm trigger, which can be a good reference for the administrator. A maximum of 1000 records can be listed. In addition, the administrator can also export the log history to a file, or send it by email.

Video

OSD Settings



On this page, the administrator can customize the OSD (on-screen display) information and location of the video image. Two color blocks are located in the top-right corner of the video image.

a. **Connect loss block:** The connect loss block is shown in yellow to indicate the status of the video source.
   - Stable yellow: video source is connected.
   - Blinking yellow: the video source is disconnected or has trouble sending video streams.

b. **Alarm block:** the alarm block is shown in red to indicate the status of the alarm being trigged from the video source site.
   - Stable red: no alarm is detected.
   - Blinking red: an alarm is being triggered.

In addition to these 2 color blocks, 2 additional pieces of video source information can be shown on the video image.

a. **Source Address:** the domain name or IP address of the video source

b. **Source Description:** the customized information of the video source

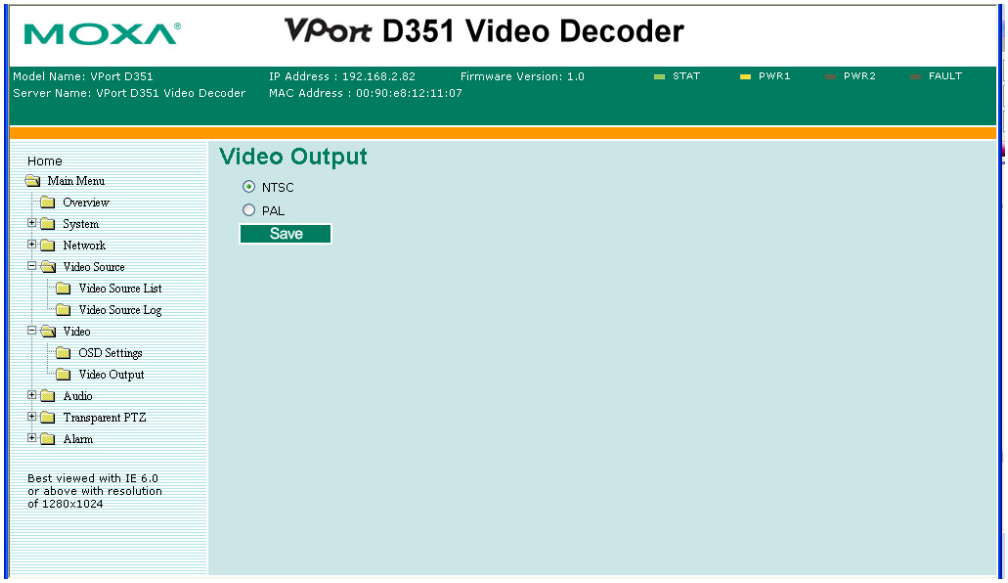
Both pieces of information can be set up to be located on the video images by setting the locations of the **X Axis** and **Y Axis**.

Setting	Description	Default
Source Address	Enable or disable the source address being displayed on the video image	enable
Source Description	Enable or disable the source description being displayed on the video image	enable
X Axis	Set up the X axis of the video source information display location	3 (1-45)
Y Axis	Set up the Y axis of the video source information display location	27 (4-30)
Show Connect Loss block	Enable or disable the display of the connect loss block	enable
Show Alarm block	Enable or disable the display of the alarm block	enable

NOTE The OSD (on-screen display) can be used to give users the video source status and information from the analog video display. The Administrator should set up the location of the video source information properly for easy viewing.

Video Output

VPort supports both NTSC and PAL video output. The Administrator can manually select **NTSC** or **PAL** video signals.

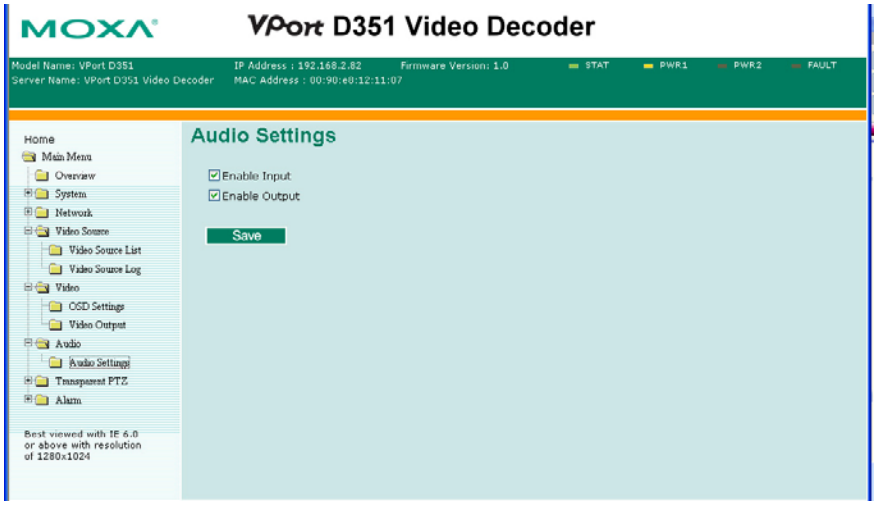


NOTE	The video frame rate, video quality, and video resolution of the VPort D351 outputs are determined by the configurations of the video streams being generated by the video source.

Audio

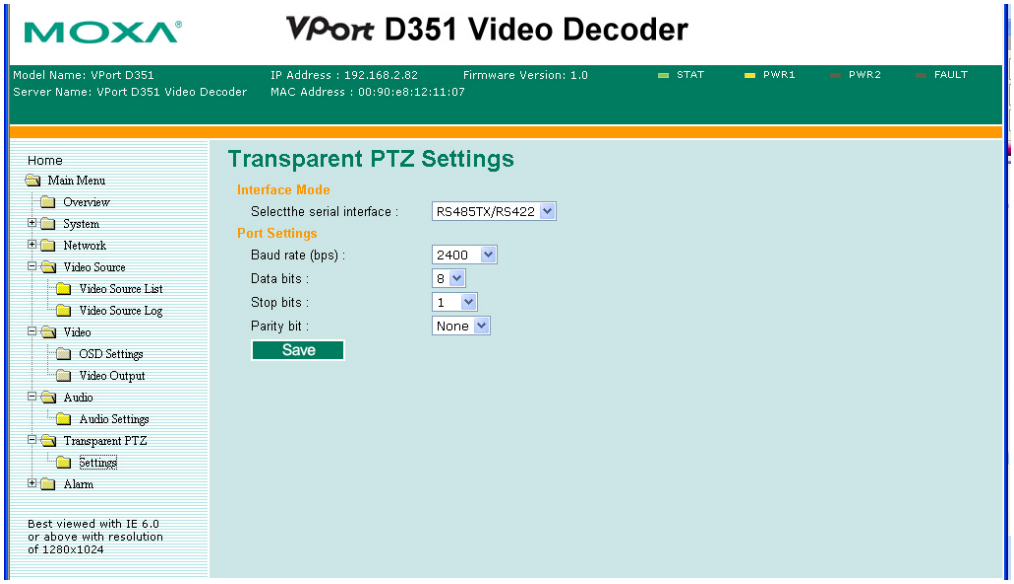
Audio Settings

The VPort D351 can decode the audio being generated from the video source and can also send the audio to the video source, allowing users to enable voice communication between the video source and the VPort D351.



Setting	Description	Default
Enable input	Enable or disable the audio input	Enable
Enable output	Enable or disable the audio output	Enable

Transparent PTZ



The VPort D351 supports the transparent PTZ control function, which means the user can connect a legacy PTZ control panel to the VPort D351's PTZ port to control the PTZ camera connected to the VPort video encoder. It is not necessary to install PTZs.

NOTE To enable the transparent PTZ control function, the PTZ driver in VPort series video encoders should be set to Transparent PTZ Control.

Interface Mode

Setting	Description	Default
Selecting serial interface	Select the serial interface as RS-232 or RS-485TX/ RS-422	RS-485TX/ RS-422

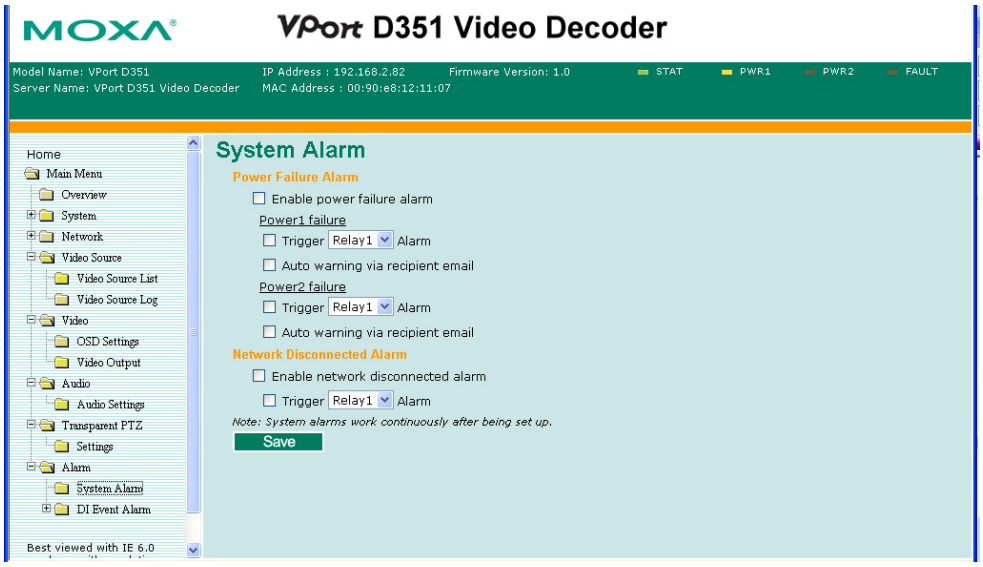
Port Settings

Setting	Description	Default
Baud Rate (bps)	the baud rate setting of the PTZ port	2400
Data bits	the data bits of the PTZ port	8
Stop bits	the stop bits of the PTZ port	1
Parity bit	the parity bit of the PTZ port	None

Alarm

System Alarm

In addition to the LED indicators, two kinds of system alarm are provided by the VPort D351 for notifying the system administrator.



Alarm Type	Triggered Condition	Triggered Action
Power Failure	1. Power 1 failure 2. Power 2 failure	1. Relay 2. Email
Network Disconnected	Network disconnected	Relay

Power Failure Alarm

Setting	Description	Default
Enable power failure alarm	Enable or disable power failure alarm.	Disabled

Power 1 Failure/Power 2 Failure

Setting	Description	Default
Trigger Relay alarm	Enable or disable the alarms to trigger either **Relay 1** or **Relay 2**.	Disabled
Auto warning via recipient email	Enable or disable sending warning messages via the recipient's email; configuration is done on the **Network** → **SMTP Server** page.	Disabled

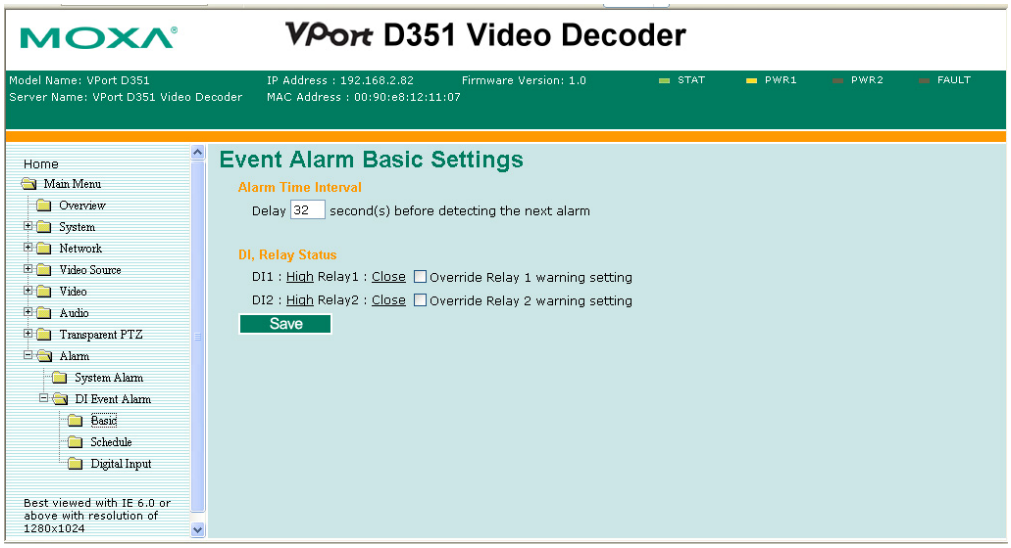
Network Disconnected Alarm

Setting	Description	Default
Enable network disconnected alarm	Enable or disable network disconnected alarm.	Disabled
Trigger Relay alarm	Enable or disable the action in triggering **Relay 1** or **Relay 2** alarms.	Disabled

NOTE Since several alarms can be set up to trigger the VPort's relays, the administrator should configure these alarms carefully in case a relay message is read incorrectly.

DI Event Alarm

Basic



Alarm Time Interval

Setting	Description	Default
Delay [ ] second(s) before detecting the next alarm	Set up the time interval for each event alarm triggered.	32 seconds (1 to 999 seconds)

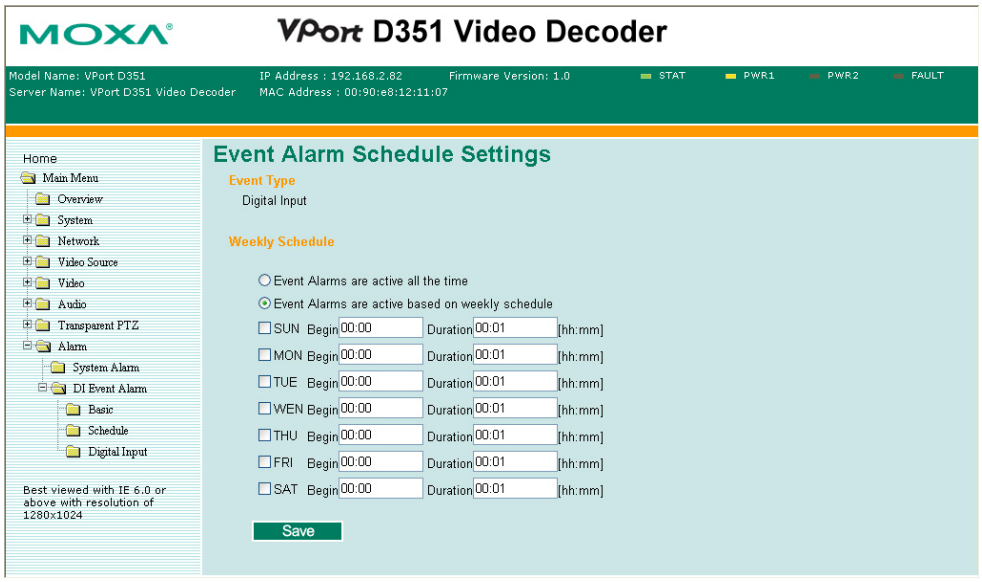
DI, Relay Status

Administrators can check the current DI and Relay status of this VPort in the "DI, Relay Status" section on the "Event Alarm Basic Settings" page. Two options are available to return the relay's status back to the system defaults. To make the function work, check the **Override Relay 1 warning setting** and **Override Relay 2 warning setting** boxes, and then click on **Save**.

NOTE The relays will not be triggered when the **Override Relay 1 warning setting** and **Override Relay 2 warning setting** boxes are checked. Un-check these 2 boxes to ensure that the relays will trigger.

Schedule

A schedule is provided to set event alarms for daily security applications.



Weekly Schedule

Setting	Description	Default
Event Alarms are active all the time	Select the option "Event Alarms are active all the time"	Event Alarms are active all the time
Event Alarms are on a weekly schedule	Select to operate event alarms on a weekly schedule.	

NOTE Either **Event Alarms are active all the time** or **Event Alarms are active based on weekly schedule** must be selected, or the applications described in the following sections will not work properly.

Setting	Description	Default
☐Sun ☐Mon ☐Tue ☐Wed ☐Thu ☐Fri ☐Sat	Select the days of the week for the event alarms' schedule.	None
Begin 00:00	Set the beginning time of event alarm.	00:00
Duration 00:00	Setup the time period of event alarm being activated.	00:00

Digital Input

Two digital inputs are provided by the VPort D351 for linking with alarm detection devices, such as sensors.

Setting	Description	Default
Enable digit input alarm	Enable or disable the digit input alarm.	Disable

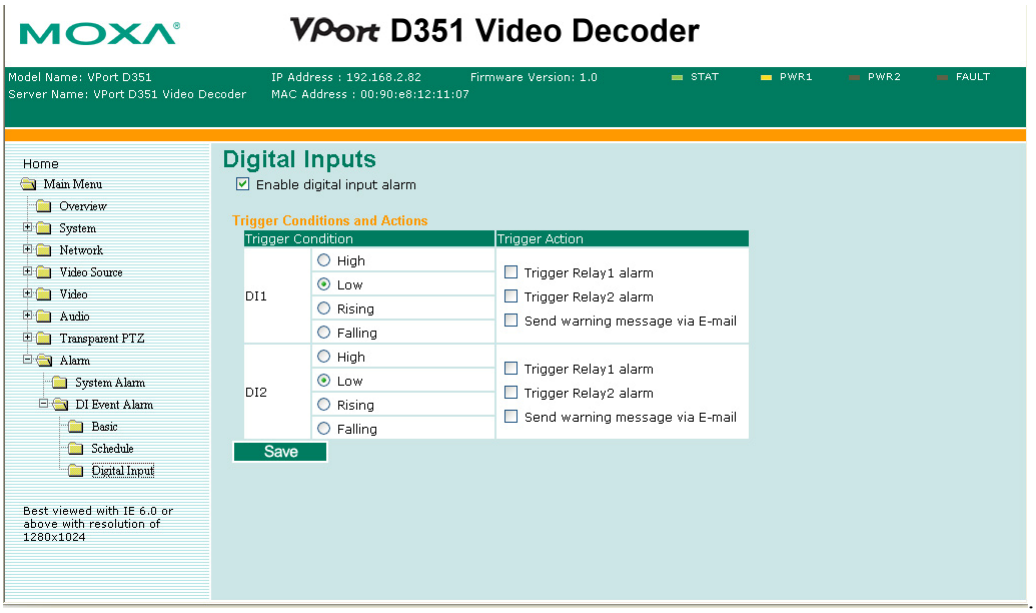
Trigger Conditions

Setting	Description	Default
High	The DI is always in the "High" state after an alarm is detected.	Disabled
Low	The DI is always in the "Low" state after an alarm is detected.	Enabled
Rising	The DI goes from state "Low" to state "High" and then back to state "Low" when an alarm is detected.	Disabled
Falling	The DI goes from state "High" to state "Low" and then back to state "High" when an alarm is detected.	Disabled

NOTE DI specifications are given in Chapter 1.

Trigger Actions

Administrators can set up trigger actions for each DI, including Trigger Relay1 alarm, Trigger Relay2 alarm, Send warning message via E-mail.



A

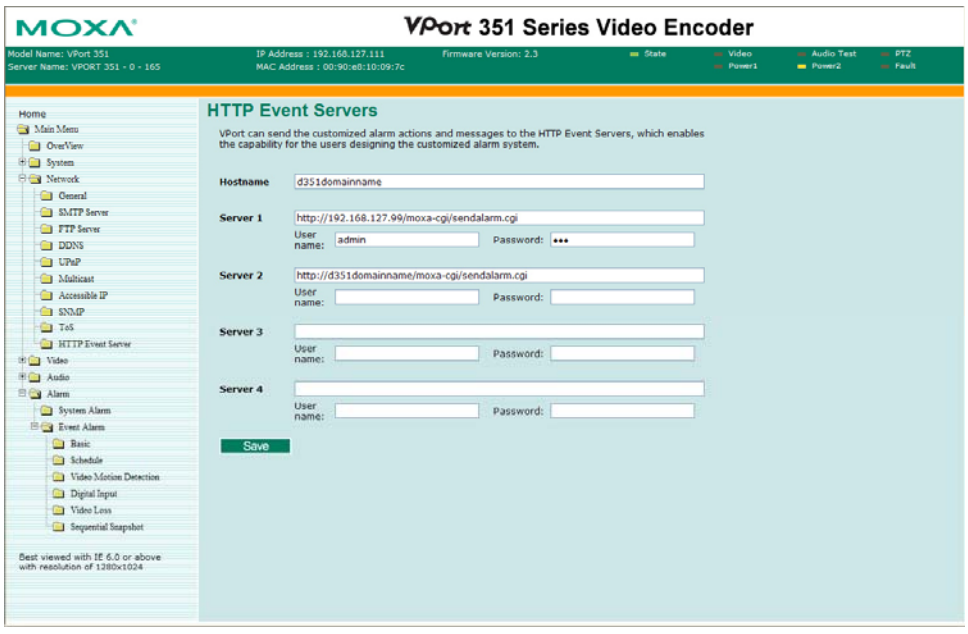
How to Set Up the Alarm Trigger Function

The VPort D351 supports an alarm trigger function that allows the video source to be switched to a video source, based on an alarm trigger condition. For this function to work, the video source must be set up to send alarm messages to the VPort D351 with the sendalarm.cgi command. Users can implement the **sendalarm.cgi** command with the HTTP Event function supported by VPort series products, or customized software.

HTTP Event function

The following example uses the VPort 351.

Step 1: Set up the HTTP Event Server.



Hostname

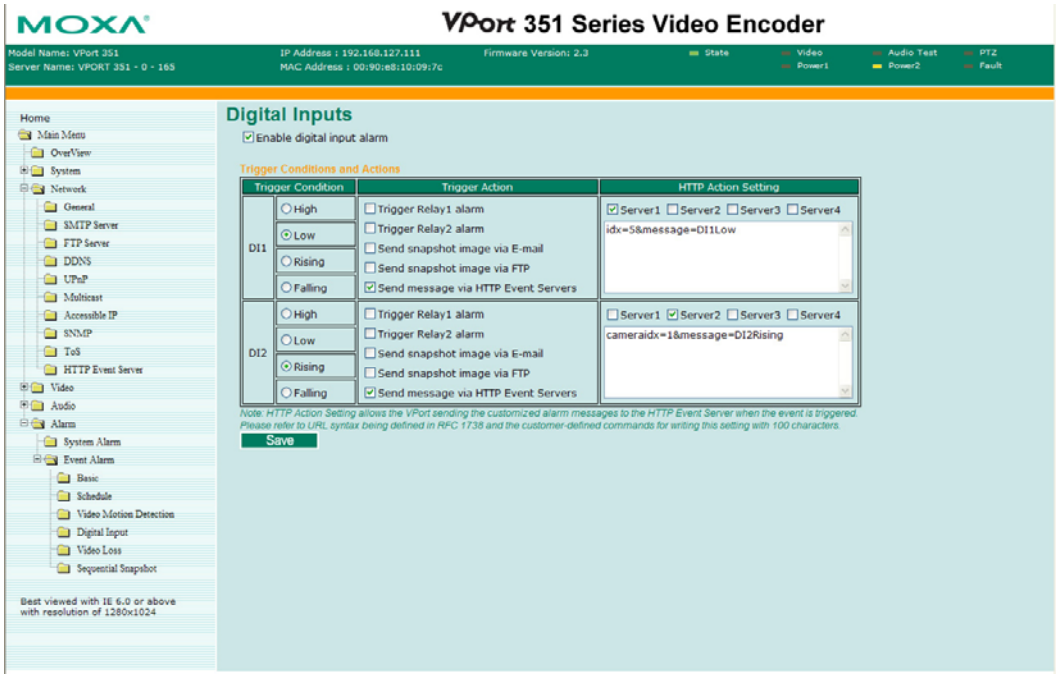
If the VPort D351 uses a domain name instead of an IP address, then type the domain name in the **Hostname** input box. If a domain name is not being used, then leave the Hostname field blank.

Server 1, 2, 3, 4

Input the sendalarm.cgi command, video source's user name, and password.

The sendalarm.cgi command should have the form http://IP address or domain name/ moxa-cgi/sendalarm.cgi.

Step 2: Set up the alarm to **Send message via HTTP Event Servers**.



Enable the alarm condition

The Vport 351 supports video motion detection, digital input, and video loss alarm conditions.

Trigger Condition

Select the condition for triggering the alarm

Trigger Action

Choose the **Send message via HTTP Event Servers** for sending the alarm message to VPort D351

HTTP Action Settings

In this section, select Server 1, 2, 3, or 4 for the target HTTP Event Server, and then input the alarm message being sent. Two messages should be listed.

1. **Cameraidx=xxxx** or **Idx=xxxx** is for identifying the video source.
   - Cameraidx is the camera channel number of the video source. Since the VPort 351 is a 1-channel video encoder, **Cameraidx = 1**.
   - Idx is the channel index of this video source in the VPort D351's video source list. For example, if this VPort 351 is indexed in number 5 of the VPort D351's video source list, then **Idx = 5**.

2. **Message=xxxx** is for the description of this alarm. Users can customize some information to describe this alarm. For example, if the DI1 alarm is triggered in low status, the user can use **Message=DI1Low** to get the **DI1Low** information from the video source log.

Customized software

Users also can program customized software to send the alarm message to the VPort D351 for the alarm trigger function. Users will need to program the sendalarm.cgi command into the software.

Syntax:

http://<server>/moxa-cgi/sendalarm.cgi?address=xxxx&cameraidx=xxxx&message=xxxx

Example:

http://192.168.127.100/moxa-cgi/sendalarm.cgi

address=192.168.127.100&cameraidx=1&message=DI1low

B

Time Zone Table

The hour offsets for different time zones are shown below. You will need this information when setting the time zone in automatic date/time synchronization. GMT stands for Greenwich Mean Time, which is the global time that all time zones are measured from.

(GMT-12:00) International Date Line West
(GMT-11:00) Midway Island, Samoa
(GMT-10:00) Hawaii
(GMT-09:00) Alaska
(GMT-08:00) Pacific Time (US & Canada), Tijuana
(GMT-07:00) Arizona
(GMT-07:00) Chihuahua, La Paz, Mazatlan
(GMT-07:00) Mountain Time (US & Canada)
(GMT-06:00) Central America
(GMT-06:00) Central Time (US & Canada)
(GMT-06:00) Guadalajara, Mexico City, Monterrey
(GMT-06:00) Saskatchewan
(GMT-05:00) Bogota, Lima, Quito
(GMT-05:00) Eastern Time (US & Canada)
(GMT-05:00) Indiana (East)
(GMT-04:00) Atlantic Time (Canada)
(GMT-04:00) Caracas, La Paz
(GMT-04:00) Santiago
(GMT-03:30) Newfoundland
(GMT-03:00) Brasilia
(GMT-03:00) Buenos Aires, Georgetown
(GMT-03:00) Greenland
(GMT-02:00) Mid-Atlantic
(GMT-01:00) Azores
(GMT-01:00) Cape Verde Is.
(GMT) Casablanca, Monrovia
(GMT) Greenwich Mean Time: Dublin, Edinburgh, Lisbon, London
(GMT+01:00) Amsterdam, Berlin, Bern, Stockholm, Vienna
(GMT+01:00) Belgrade, Bratislava, Budapest, Ljubljana, Prague
(GMT+01:00) Brussels, Copenhagen, Madrid, Paris
(GMT+01:00) Sarajevo, Skopje, Warsaw, Zagreb
(GMT+01:00) West Central Africa
(GMT+02:00) Athens, Istanbul, Minsk
(GMT+02:00) Bucharest
(GMT+02:00) Cairo

(GMT+02:00) Harare, Pretoria
(GMT+02:00) Helsinki, Kyiv, Riga, Sofia, Tallinn, Vilnius
(GMT+02:00) Jerusalem
(GMT+03:00) Baghdad
(GMT+03:00) Kuwait, Riyadh
(GMT+03:00) Moscow, St. Petersburg, Volgograd
(GMT+03:00) Nairobi
(GMT+03:30) Tehran
(GMT+04:00) Abu Dhabi, Muscat
(GMT+04:00) Baku, Tbilisi, Yerevan
(GMT+04:30) Kabul
(GMT+05:00) Ekaterinburg
(GMT+05:00) Islamabad, Karachi, Tashkent
(GMT+05:30) Chennai, Kolkata, Mumbai, New Delhi
(GMT+05:45) Kathmandu
(GMT+06:00) Almaty, Novosibirsk
(GMT+06:00) Astana, Dhaka
(GMT+06:00) Sri Jayawardenepura
(GMT+06:30) Rangoon
(GMT+07:00) Bangkok, Hanoi, Jakarta
(GMT+07:00) Krasnoyarsk
(GMT+08:00) Beijing, Chongqing, Hongkong, Urumqi
(GMT+08:00) Taipei
(GMT+08:00) Irkutsk, Ulaan Bataar
(GMT+08:00) Kuala Lumpur, Singapore
(GMT+08:00) Perth
(GMT+09:00) Osaka, Sapporo, Tokyo
(GMT+09:00) Seoul
(GMT+09:00) Yakutsk
(GMT+09:30) Adelaide
(GMT+09:30) Darwin
(GMT+10:00) Brisbane
(GMT+10:00) Canberra, Melbourne, Sydney
(GMT+10:00) Guam, Port Moresby
(GMT+10:00) Hobart
(GMT+10:00) Vladivostok
(GMT+11:00) Magadan, Solomon Is., New Caledonia
(GMT+12:00) Auckland, Wellington
(GMT+12:00) Fiji, Kamchatka, Marshall Is..
(GMT+13:00) Nuku'alofa

C

Technical Specifications

Video	
Video Decoding	MPEG4, MJPEG (Auto detecting) video stream
Video Input	Video streams from VPort series Video Encoder or IP Camera via TCP/IP network (does not include VPort 2110, VPort 2140, VPort 2141, VPort 2310, and VPort 3310)
Video Output	1 BNC connector, NTSC, or PAL
Resolution	Max. 540 TVL Lines
Video Source	Max. 64, manually selected (by web server or digital inputs) or automatic scan with time interval
Video Viewing	• Max. 30/25 FPS (NTSC/PAL) being decoded • OSD (on-screen display) with video source, encoder IP, date/time, and customized information
Audio	
Audio Input	1 Line-in or MIC-in, 3.5 mm phone jack
Audio Output	1 Line-out, 3.5 mm phone jack
Audio encoding	PCM
Audio decoding	Mono
Network	
Protocols	TCP, UDP, HTTP, SMTP, Telnet, NTP, DNS, DHCP, UPnP, RTP, RTSP, SNMPv3
Ethernet	1 10/100BaseT(X) auto negotiation speed RJ45 port
Serial Port	
PTZ port	1, RS-232 or RS-422/485 Terminal Block connector, Max. 115.2 Kbps
Console port	1 RS-232 RJ45 port
GPIO	
Digital Input	2, max. 8 mA per input “High”: +13V to +30V “Low”: -30V to +3V
Relay Output	2 (max. 24 VDC @ 1A)

LED Indicators	
PW1	Power 1
PW2	Power 2
FAULT	Can be set up to correspond to system alarm, power failure, or network down
STATE	System boots properly or not

Power	
Input	2 12/24 VDC or 24 VAC inputs to provide redundancy
Consumption	Approximately 8W

Physical Propertires	
Casing	IP30 protection, metal case
Dimensions (W x D x H)	52.98 x 135 x 105 mm (2.09 x 5.31 x 4.13 in.)
Weight	910 g
Installation	DIN-Rail or wall mounting (with optional WK-46 kit)

Environmental Limits	
Operating Temperature	0 to 60°C (32 to 140°F)
Storage Temperature	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Regulatory Approvals	
Safety	UL 508
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), Level 2 EN61000-4-3 (RS), Level 3 EN61000-4-4 (EFT), Level 3 EN61000-4-5 (Surge), Level 3 EN61000-4-6 (CS), Level 3 EN61000-4-12 (Oscillatory wave immunity), Level 3
Shock	IEC60068-2-27
Freefall	IEC60068-2-32
Vibration	IEC60068-2-6
MTBF	160,000 hours
WARRANTY	5 years

Alarm Features

- Automatically switch to the video source once an event is triggered at video source site
- Daily repeat timing schedule for DI sensors
- JPEG snapshots for pre/trigger/post alarm images
- Automatic transfer of stored images by email with event-triggered actions

Security

- Administrator's password protection
- Accessible IP address filtering